



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**DISTRIBUTED TEAM COLLABORATION IN A
COMPUTER MEDIATED TASK**

by

Amy L. Halin

March 2004

Thesis Advisor:
Thesis Co-Advisor:

Rudolph P. Darken
Susan G. Hutchins

Approved for public release; distribution is unlimited

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE March 2004	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE: Distributed Team Collaboration in a Computer Mediated Task			5. FUNDING NUMBERS	
6. AUTHOR(S) Halin, Amy L.				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) <p>Due to the rapid development of technology, many simple tasks can now be automated, leaving more difficult and cognitive tasks such as planning, decision making and design to teams. Technology also allows these teams to be distributed through time and space. While this is becoming more and more prevalent in the business world, distributed teams also exist in the military where the stresses are much different.</p> <p>One of the key factors associated with collaboration in military teams is situational awareness. This research used a commercial command and control type video game to investigate the issues of collaboration and situational awareness. The amount of information subjects had access to was varied to see if there was a significant impact upon their level of situational awareness which was measured by the accuracy of maps that the subjects drew.</p> <p>Results from this research may provide insight into how much information is needed by distributed teams and when they need it. Ideas for future research in this area have also been proposed.</p>				
14. SUBJECT TERMS Teams, Situational Awareness, Computer Based Environment			15. NUMBER OF PAGES 187	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL	

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release; distribution is unlimited

**DISTRIBUTED TEAM COLLABORATION IN A COMPUTER MEDIATED
TASK**

Amy L. Halin
Lieutenant Commander, United States Navy
B.A., University of Pennsylvania, 1993

Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF SCIENCE IN MODELING, VIRTUAL ENVIRONMENTS, AND
SIMULATION**

from the

**NAVAL POSTGRADUATE SCHOOL
March 2004**

Author: Amy L. Halin

Approved by: Rudolph P. Darken
Thesis Advisor

Susan G. Hutchins
Co-Advisor

Rudolph P. Darken
Chair, MOVES Academic Committee

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

Due to the rapid development of technology, many simple tasks can now be automated, leaving more difficult and cognitive tasks such as planning, decision making and design to teams. Technology also allows these teams to be distributed through time and space. While this is becoming more and more prevalent in the business world, distributed teams also exist in the military where the stresses are much different.

One of the key factors associated with collaboration in military teams is situational awareness. This research used a commercial command and control type video game to investigate the issues of collaboration and situational awareness. The amount of information subjects had access to was varied to see if there was a significant impact upon their level of situational awareness which was measured by the accuracy of maps that the subjects drew.

Results from this research may provide insight into how much information is needed by distributed teams and when they need it. Ideas for future research in this area have also been proposed.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	MOTIVATION	1
B.	PROBLEM STATEMENT	3
C.	THESIS ORGANIZATION.....	3
II.	BACKGROUND	5
A.	TEAMS	5
1.	Definition	5
2.	Team Tasks.....	6
3.	Teamwork.....	6
B.	SITUATIONAL AWARENESS	7
1.	Definition	7
2.	Contributors to SA.....	8
3.	Elements of SA	8
4.	Factors Affecting SA.....	9
5.	Team SA.....	11
III.	APPROACH.....	15
A.	STARCRAFT®	15
1.	Features.....	15
2.	Campaign Editor.....	19
B.	COMMUNICATION.....	19
C.	MAPS	20
IV.	METHODOLOGY	21
A.	PARTICIPANTS.....	21
B.	APPARATUS	22
1.	Maps.....	22
a.	Map 1.....	23
b.	Map 2.....	23
c.	Map 3.....	24
d.	Map 4.....	25
2.	Apparatus Layout	26
C.	PROCEDURE	27
V.	ANALYSIS	31
A.	GAME SCORES	31
B.	COMMUNICATIONS	33
C.	SCREEN SHOTS VS. MAP COMPARISON	34
1.	Data Generation	34
2.	Statistical Analysis	36
VI.	RESULTS AND DISCUSSION	43
A.	EFFECT OF TREATMENT VARIABLES ON SA	43

1.	Distribution.....	43
2.	Shared Vision	43
B.	INDIVIDUAL VS. TEAM PLAY	44
VII.	CONCLUSION	45
A.	EXPERIMENT DISCUSSIONS.....	45
1.	StarCraft®.....	45
2.	Maps	45
3.	Treatment Effects.....	46
B.	FUTURE WORK.....	46
APPENDIX A.	LIST OF TRIGGERS APPLIED TO MAPS.....	49
A.	COMPUTER TRIGGERS	49
B.	ALLIED TRIGGERS	50
C.	TRIGGERS FOR ALL PLAYERS	51
APPENDIX B.	DEMOGRAPHICS QUESTIONNAIRE FOR PARTICIPANTS	53
APPENDIX C.	SCRIPT FOR EXPERIMENT.....	55
APPENDIX D.	IN-STUDY QUESTIONNAIRE FOR PARTICIPANTS	57
APPENDIX E.	GAME SCORES.....	61
APPENDIX F.	STATISTICAL COMPUTATIONAL FORMULAS	63
APPENDIX G.	EXPERIMENT TRANSCRIPTS	67
APPENDIX H.	SCREEN VS MAP COMPARISON DATA	163
LIST OF REFERENCES	167
BIBLIOGRAPHY	169
INITIAL DISTRIBUTION LIST	171

LIST OF FIGURES

Figure 1.	Relationship Between Individual and Team SA	12
Figure 2.	Example of Screen at Beginning of Play	16
Figure 3.	Mini-map Display Showing “Fog of War”	17
Figure 4.	Display Showing “Shrouded” Area in Main Screen.....	17
Figure 5.	Screenshot of Multiplayer Game with Shared Vision On	18
Figure 6.	Map 1	23
Figure 7.	Map 2	24
Figure 8.	Map 3	25
Figure 9.	Map 4	26
Figure 10.	Experiment Set-up	27
Figure 11.	Performance by Game Order	31
Figure 12.	Performance by Map.....	33
Figure 13.	Example of Map Comparison and Scoring.....	35
Figure 14.	Display of Computer Triggers	49
Figure 15.	Display of Allied Triggers	50
Figure 16.	Display of Triggers for All Players.....	51

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1.	Summary Table for the Analysis of Variance by Game Order.....	32
Table 2.	Summary Table for the Analysis of Variance by Map	33
Table 3.	Individual Scores, Uncovered Features, 20 Minutes Left.....	37
Table 4.	Individual Scores, Drawn Features, 20 Minutes Left	37
Table 5.	Individual Scores, Uncovered Features, 10 Minutes Left.....	38
Table 6.	Individual Scores, Drawn Features, 10 Minutes Left	38
Table 7.	Individual Scores, Uncovered Features, Game End	38
Table 8.	Individual Scores, Drawn Features, Game End	39
Table 9.	Team Scores, Uncovered Features, 20 Minutes Left.....	39
Table 10.	Team Scores, Drawn Features, 20 Minutes Left.....	39
Table 11.	Team Scores, Uncovered Features, 10 Minutes Left.....	40
Table 12.	Team Scores, Drawn Features, 10 Minutes Left.....	40
Table 13.	Team Scores, Uncovered Features, Game End.....	40
Table 14.	Team Scores, Drawn Features, Game End	41
Table 15.	Scores for Games 1 and 2	61
Table 16.	Scores for Games 3 and 4	62
Table 17.	Summary Table for Analysis of Variance with Formulas	64
Table 18.	Summary Table for Two-Factor Analysis of Unweighted Means.....	66
Table 19.	Individual Data with 20 Minutes Left.....	163
Table 20.	Individual Data with 10 Minutes Left.....	164
Table 21.	Individual Data at Game End.....	164
Table 22.	Team Data with 20 Minutes Left	165
Table 23.	Team Data with 10 Minutes Left	165
Table 24.	Team Data at Game End	166

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

I would like to acknowledge Dr. C.A.P. Smith and LCDR Dylan Schmorow, USN, for their original idea of using StarCraft® to investigate distributed collaboration in a multi-tasking environment. Thank you.

I would like to thank Dr. Rudy Darken and Susan Hutchins for their support and patience.

Lastly, I would like to thank my parents, Victor and Patricia Halin, and my brother, Eric, and his wife, Jaime, for their love and support through this process.

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

A. MOTIVATION

Advances in technology have had a significant effect on the workplace. Where once communications were conducted primarily by phone, letter, or in person, now email, online chats, faxes, and video-teleconferencing can be added to the mix. These advances in technology have not only affected the way people work, but also the type of work that is required of humans. Simple, less cognitive tasks are being left more and more to automated systems in many situations, while humans are required to perform more complex, dynamic tasks such as planning, decision-making, process monitoring, and design. Furthermore, because these types of tasks are more cognitively demanding, they are often assigned to teams as opposed to being left to an individual (Cooke, Salas, Cannon-Bowers and Stout, 2000). Teams are better able to handle complex tasks because responsibilities and workload can be divided among the team members, and the ideal team would have members with different areas of expertise. In the area of acquisitions, for instance, an Integrated Product Team may have members from finance, contracting, security, systems engineering, and Automated Information Systems. This broader base of knowledge makes a team much more flexible when it comes to adapting to and handling different situations more effectively. With resident expertise already present on the team, problems can be dealt with more quickly and effectively when they arise.

Another feature of teams is that they may be distributed through time and space. No longer do team members have to be co-located in the same office or town; rather, they can be in different countries and time zones and still work on projects together. As technology becomes cheaper and more accessible and new products are developed, they will be incorporated into team tasks in greater numbers. Businesses are now able to employ people working from home due to the advent of the computer, fax machine, email, and software that allows for video-teleconferencing or voice communication over the Internet.

Business is not the only arena that employs distributed teams. The United States Navy has often had distributed teams, even before the advent of the technological advances in the world today. The Officer of the Deck of an aircraft carrier and the ship that serves as its plane guard can be seen as a distributed team. Likewise, an operational watch team located on a ship may need to collaborate and coordinate their actions with watch teams located elsewhere on the ship, on different ships, and on shore. While both the military and business world employ distributed teams, the circumstances under which they operate are very different. Military operational situations often involve inherent time constraints that may affect what strategies teams employ. Decisions need to be made quickly on currently available information, and it may not be possible to wait minutes, let alone hours, for more information. Communications – especially between ships or between ship and shore – may be of lower quality, or not available at all, due to bandwidth constraints. It is entirely possible that one part of a distributed team will have access to information that the other team members do not have access to which could help that subteam to maintain or improve situational awareness (SA). The information could be key to helping the team understand the situation, which would enable them to develop better goals and strategies to meet those goals. Probably the most significant difference between military teams and those in the business world is that the military is more likely to be involved in situations where making the right decision can mean life or death. For all these reasons, it is important that the team members be able to work together to reach a common goal and overcome any differences in information that may exist.

Because military and business tasks occur in situations that are very diverse, it is important to study teamwork in a military-type task to determine how members collaborate and coordinate to meet a goal. A key element to the successful completion of the task would be the team members' understanding of the given situation and the task that needs to be completed. For a military command and control type task, studying a team's level of situational awareness can provide important insight into how individual members work together to meet a common goal.

B. PROBLEM STATEMENT

The purpose of this thesis is to investigate teamwork within a simple military command and control type of situation by studying two team members' collaboration and their level of SA. This study manipulated each team member's access to information and to the facial cues and body language of their partner in an attempt to measure the impact of these two variables on the team members' level of SA. It was anticipated that team members will develop better SA when they have access to the same information as their partner, and when they can see their partner. The results of this research may help in understanding collaboration and the development of SA in a more complex, military-type task.

C. THESIS ORGANIZATION

Chapter II focuses on background and previous work on teams, teamwork, and situation awareness. Chapter III delineates the approach to studying teamwork in a distributed task. Chapter IV describes the methodology used for the experiment, including the design, and issues associated with the set-up and implementation of the experiment. Chapter V covers the analysis of the data, and Chapter VI provides the results and discussion. Chapter VII is the conclusion and includes a critique of the experiment and suggestions for future work.

THIS PAGE INTENTIONALLY LEFT BLANK

II. BACKGROUND

A. TEAMS

1. Definition

It is important to distinguish the difference between a team and a group of individuals. Salas, Dickinson, Converse, and Tannenbaum (1992) proposed a definition for a team that is widely quoted throughout the literature:

[A team is] a distinguishable set of two or more people who interact dynamically, interdependently, and adaptively toward a common and valued goal/objective/mission, who have each been assigned specific roles or functions to perform, and who have a limited life-span of membership.

Another definition found in the literature defines a team as:

A group of two or more individuals who must interact cooperatively and adaptively in purpose of shared value objectives. Further, team members have clearly defined differentiated roles and responsibilities, hold task-relevant knowledge, and are interdependent (i.e., must rely on one another in order to accomplish goals) (Cannon-Bowers, Salas and Converse, 1993).

Key differences between a group and a team are highlighted in these definitions. A group is simply two or more individuals who may have something in common. Teams, however, are groups with special distinctions: they share a common purpose, common understanding, and commitment to a goal. (Fisher and Fisher, 1998) Both definitions include the fact that team members work together to achieve a common goal that they have a vested interest in. Furthermore, both definitions mention that members are interdependent: the actions of each team member can have an effect on other members and their actions. Both definitions also highlight the ability of teams to adapt: teams can adapt to new situations more readily than individuals due to their pooled resources (Salas, Cannon-Bowers, Payne, Smith-Jentsch, 1998). The fact that team members have different roles and responsibilities allows them to handle the more cognitively challenging tasks that are too demanding for one person alone (Cooke, Salas, Cannon-Bowers and Stout, 2000).

2. Team Tasks

Teams can often be differentiated by the types of tasks that they are assigned to perform. Teams are required to engage in complex situations such as flying planes, firefighting, military command and control, and surgery to name a few (Cannon-Bowers, Salas and Converse, 1993). These situations are often characterized by “severe time pressure; complex, multicomponent decision tasks; rapidly evolving and changing information; high short-term memory demands; and high information ambiguity” (Ibid.). Team tasks require members to exchange information and resources, coordinate with each other, and adjust dynamically to the given situation (Salas, Dickinson, Converse and Tannenbaum, 1992).

When teams are distributed, tasks can become more complex. For instance, an already cognitively demanding task such as system design is made more complex when team members are separated by time and distance. Communications may not be real-time; therefore, there may be a period of days or weeks between a mistake being made and then being corrected. When teams are distributed, it may also take longer to come to a consensus; it is much easier to hold a meeting when everyone is in the same location. While technology provides very good communications, there may be some concern that the facial expressions and body language that people can observe when face-to-face are lost over electronic communications (Palmer, Gentner, Cameron and Soest, 1997). People cannot observe facial expressions and body language, or hear vocal intonations that may reveal stress, deceit, or hesitation by reading emails or participating in real-time chats. Video-teleconferencing may solve this problem to a degree, but it is dependent on the quality of the connection.

3. Teamwork

As mentioned previously, teamwork is needed to accomplish many complex tasks. Teamwork “can be thought of as an identifiable set of behaviors, cognitions, and attitudes that contribute to the team’s overall functioning.” (Stout, Cannon-Bowers and Salas, 1996) However, many disasters have been attributed to the breakdown of teamwork: Three Mile Island, the USS Vincennes incident, and airplane crashes are a few examples (Stout, Cannon-Bowers, Salas and Milanovich, 1999). In a study of military

command and control teams by McIntyre and Salas the following behaviors were noted as characteristic of high-performing teams: “performance monitoring, giving and receiving feedback, closed-loop communication, backing-up behaviors, adaptability/flexibility, and coordination of action.” (Stout, Cannon-Bowers and Salas, 1996)

From the definitions of teams and teamwork seen throughout the literature, collaboration and communication are very important to successful teams. Collaboration is defined as “a coordinated, synchronous activity that is the result of a continued attempt to construct and maintain a shared conception of a problem.” (Baker, Hansen, Joiner and Traum, 1999) Collaboration and communication among team members can occur real-time (i.e., using meetings, telephone conversations, text chats, voice over IP, or video-teleconferencing) to discuss an ongoing project or in a “delayed” fashion (i.e., using emails, letters, or faxes) to forward projects to team members for them to work on separately to be combined at a later date. This “delayed” collaboration could also be taken to mean that individual team members are only concerned with their phase of a project and at a later date, parts of the project will be combined into a whole. Delayed collaboration can cause additional problems that may affect the team, for example, if team members do not maintain fairly close contact, one member or subteam may stray too far from the original goal. This can lead to wasted time and effort while the team works to get back on track.

B. SITUATIONAL AWARENESS

1. Definition

Perhaps the simplest definition of situation awareness (SA) is that it is “knowing what is going on around you” (Endsley, 2000). According to Charness (1995), SA is a “default” construct; that is to say, it is easier to know what it is when it is missing. However, SA is a complex concept and actually deserves a more explicit definition. Endsley defines SA as “the perception of the elements in the environment within a volume of time and space, the comprehension of their meaning, and the projection of their status in the near future.” (1997) This definition can be broken down further into the three levels of SA: perception, comprehension, and projection. (Endsley, 2000)

- Level I: perception of information and cues in the environment. This first step is crucial. If information in the environment is missed or perceived incorrectly, it can affect the further development of SA, because everything builds upon this key step.
- Level II: comprehension of Level I data. Information gathered in the previous level is combined, interpreted, stored and retained.
- Level III: projection. Future events, actions, and needs are predicted. The better the grasp of the situation, the more likely this is to be displayed. Reaching this level is also dependent on having attained Level I and Level II SA.

2. Contributors to SA

Many elements contribute to developing one's SA. External cues from the environment such as the alarms and lights on display panels contribute information by focusing one's attention on a certain aspect of the situation, or by providing information that can be used to update or confirm one's idea of what is going on (Pew, 1995). In different situations, such as firefighting, other sensory cues such as smell, taste, or touch can contribute to one's development of SA. Sensory cues can be thought of as overt, as in alarms, or subtle, as in changes in temperature, motion, etc. (Endsley, 2000) Decision aids and decision support systems can enhance SA by guiding one's analysis of the situation and thereby leading one to a better level of SA. Communication among team members, as well as communication between the team and outside organizations, can also contribute to developing an individual's SA (Pew, 1995). Voice communications can add not only content that may affect one's SA, but also the listener may catch inflections in speech indicating doubt, stress, nervousness, etc. that can also contribute. Furthermore, people also use others to confirm their own level of SA, such as, "I think this is what is happening. Do you agree?" or "What do you think is going on?" (Endsley, 2000) Each member's background knowledge and experience level also contributes to the development of SA. (Pew, 1995)

3. Elements of SA

While SA may simply be "knowing what is going on around you," what specifically is it that individuals are concerned about regarding SA? The following elements are the "what" referenced in the quotes above (Pew, 1995):

- Spatial awareness
- Mission and goal awareness
- System awareness
- Resource awareness
- Crew awareness

Spatial awareness is the awareness one has of where they are located within the environment, and where they are located relative to others. Mission and goal awareness is concerned with keeping current on what needs to be done and what the current goal is. As the situation develops and conditions change, goals may change or be superseded by other, previously lower-priority goals. Members need to be aware of individual goals and subtasks under those goals, etc., so that they can work towards meeting them and thus accomplishing the mission. System awareness pertains to one's knowledge of the system, requirements for the system, how different parts of the system interact with each other, or how the system fits into the larger picture. The system may be technological, but does not have to be, for example, the "system" can refer to how different offices work together, etc. System awareness is more important in complex, highly automated systems. Resource awareness refers to one's ability to keep track of human and material resources available. Not only does this mean knowing if someone is available, but also if they are qualified or able to perform tasks. Crew awareness is the need for crew members to share information and interpretations among themselves. This crew awareness can lead to a commonly held picture of what is going on and what needs to be done. (Pew, 1995)

4. Factors Affecting SA

SA can be affected by many different factors both personal and operational (Endsley, 1997). Information processing limitations and coping mechanisms were identified as personal factors affecting pilots' SA, but they are not limited only to aviation. These factors can have an effect on the development of SA in many other situations (Ibid). Processing limitations pertain to attention and working memory. What information, and how that information is processed, is determined by one's attention

(Endsley, 2000). Attention is limited, however, and situations that involve multitasking, complex tasks, and information overload can all affect an individual's information processing capacity, such as causing something to be overlooked inadvertently or consciously (i.e., "I don't have time to look at that now, I'll come back to it later.") (Endsley, 1997) A person's working memory also has a limited capacity for processing information, and situations characterized by complex tasks, large amounts of information, or that require multitasking, may affect a person's ability to process information. (Endsley, 1997; Endsley, 2000) These factors can be seen as directly affecting Level I and Level II SA, thus indirectly affecting Level III SA.

Coping mechanisms that may affect SA are mental models, goal-driven processing, and automaticity (Endsley, 1997). Mental models can be used by individuals to compensate for limitations in attention and working memory because information in long-term memory is stored in the mental model (Ibid; Endsley, 2000). SA can be described as the current state of the mental model; however, mental models may also cause biases that can adversely affect SA (Endsley, 2000). If a mental model has been developed for a given situation, a person may take information at face value because it fits the mental model when actually the situation may be quite different. For example, a watchstander may expect to see a message announcing the beginning of a training exercise because he/she always has seen it in the past. But one day, the training exercise occurs without a message being sent (or the message is missed). The watchstander may assume incorrectly that the event is "live" because his/her mental model says that a message is always sent if the event is an exercise. Goal-driven processing (or top-down processing) may affect SA because the environment is monitored in accordance with the current goals: only information relevant to current goals is perceived (Endsley, 1997; Endsley, 2000). Thus, information may be missed that would otherwise change an individual's SA, or even more importantly, result in new goals being created. Automaticity occurs when routine or repeated actions become automatic. This can save on attention demands; however, this can adversely affect SA because individuals will not be receptive to new cues. (Endsley, 1997) These factors directly affect Level I SA and indirectly affect Levels II and III.

Operational factors affecting SA are stress, workload, system design, complexity, and automation (Endsley, 1997). Stress can be both physical and social/psychological, and under stressful conditions, an individual's attention, information intake and working memory capacity may all be adversely affected (Ibid). High workload can affect individuals' SA in much the same way stress can, and interestingly, low workload can also affect SA because individuals may become too relaxed and thus miss information or new stimuli (Ibid). System design relates to the ability to acquire and display information (Ibid). Poor designs can cause critical information to be overlooked. Complexity in the system can affect mental workload: the individual may need time to develop a mental model for the situation, system, etc. in order to perform well (Ibid). Finally, automation can affect SA by essentially removing the individual from the loop, so they may not be aware of everything that is going on. (Endsley, 1997; Endsley, 2000)

5. Team SA

Many researchers agree that team SA does not simply equal the sum of the individual team members' SA. Endsley proposed that team SA is a function of each individual's SA and the overlap between them (Salas, Prince, Baker and Shrestha, 1995). Prince, Salas, Bowers and Jentsch (1995) defined team SA as individual SA plus team processes within the context of the task. Schwarz maintains that team SA is related to the level and quality of communication among the team members (Salas, Prince, Baker and Shrestha, 1995). Wellens defined team SA as "the sharing of a common perspective between two or more individuals regarding current environmental events, their meaning, and projected future status." (1993) Figure 1 is a representation of the relationship between individual and team SA. Diagrams of two or more intersecting circles have been used in the literature to represent the relationship between individual and team SA (Endsley, 1995; Stout, Cannon-Bowers and Salas, 1996). In Figure 1, the circles represent an individual's SA: what is believed to be the true state of a situation at a given point in time. The ellipses represent what an individual has contributed to team SA. The individual's contribution can be affected by the other team members' understanding of the situation; therefore, there can be a delta between what an individual believes he contributes and what actually contributes to team SA. What is important to remember is that team SA will not necessarily equal the sum of the individual SA's; not all of an

individual team member's SA information may make it to the team level of SA, or information may be skewed or misunderstood.

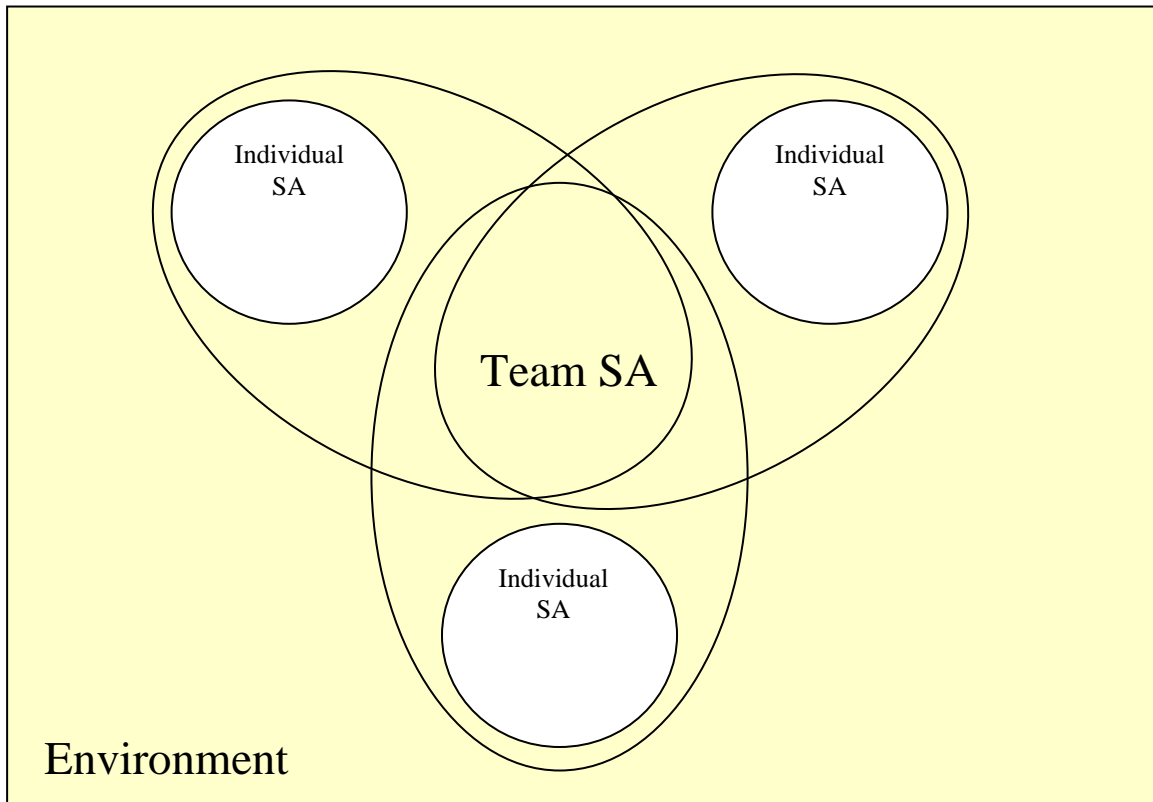


Figure 1. Relationship Between Individual and Team SA

Key among all these definitions is the importance of communication. Not only must each person maintain their own SA, but they must now coordinate and share information among themselves because all members need access to information in order to develop expectations about the task that is being performed (Salas, Prince, Baker and Shrestha, 1995). Team members are dependent on communication about goals, tasks, and capabilities, and communications may help overcome any differences or deficiencies in an individual's own mental model of the situation which is stored in long-term memory. As an individual updates his/her own SA, this will then feed back into the team's SA. If team members communicate well among themselves, the team SA should be very good. (Ibid.)

Ideally, the greater the team's SA, the more coordination and task performance would be exhibited by individuals on the team (Wellens, 1993). Also, a proportional relationship should exist between individual members' SA and the SA of the team: if

each member of the team has good SA, and can perform their tasks, then the SA of the team should be fairly good as well (Ruffner, Tullos and Muldoon, 1997). The impact the situation has on team SA should not be overlooked. The situation and environment can drive the actions of team members and to some extent determine their actions as well as what information they will be seeking from the environment and from other team members (Salas, Prince, Baker and Shrestha, 1995).

THIS PAGE INTENTIONALLY LEFT BLANK

III. APPROACH

A. STARCRAFT®

1. Features

The original idea to use StarCraft® to investigate distributed collaboration in a multi-tasking environment was proposed by Dr. C.A.P. Smith, Colorado State University (formerly of SPAWAR Systems Center San Diego) and LCDR Dylan Schmorrow, USN. StarCraft®, created by Blizzard Entertainment, is a real-time strategy game for single or multiple (up to eight) players that can be played over a direct connection, modem, LAN or the Internet. Players are in charge of forces and buildings, must research technologies, gather two types of resources (minerals and vespene gas), and conduct missions with various goals that are dependent on the scenario being played. The game was considered an appropriate venue for studying situations involving multitasking, decision-making, and situation awareness in single player games and can be used to study team interactions in multiplayer games. StarCraft® games share many characteristics with situations that researchers are interested in studying: time stress, personal consequences of actions, dynamic environments, dynamically updating information, and changing and/or competing goals, to name a few.

Figure 2 is an example of what a player may see at the beginning of a single player game. Along the bottom of the screen are three displays. The display to the left is the mini-map. In it, the player has a top-down view of the entire environment in which the game is being played. Own forces and buildings (green squares), resources (light blue), enemy forces and buildings (other colors), and terrain are all represented in the mini-map (the button to the left above the mini-map toggles terrain on and off). The white box within the mini-map shows what portion of the map is displayed in the main part of the screen. By clicking and dragging the mouse, a player can scan over the map, or the player can simply click the mouse to move to an area quickly.



Figure 2. Example of Screen at Beginning of Play

The status display in the bottom middle of the screen shows the health status and statistics of a selected unit or units. If one unit is selected, it also states what the unit is, (i.e., Terran Marine, Terran Command Center, etc.) its rank and number of kills (if applicable). Immediately to the right is a portrait (i.e., video display) of the selected unit, and in the bottom right corner is a command panel that the player uses to order units to build structures, gather resources, attack, hold their position, etc. In the upper right corner, the amount of resources available is displayed along with a ratio of supplies used/total supplies. Thus, a player can see if he/she has enough resources available for upgrades, building structures, or training forces, and how many units can be built.

StarCraft® implements a feature called the “fog of war.” Figure 3 is an enlargement of the mini-map area showing the fog of war. All areas where friendly forces are stationed show up clearly on the mini-map. Areas that have not been explored yet are black. Areas that have been explored, but where no friendly forces are currently

stationed, appear dark gray; units belonging to other players do not appear, but buildings and terrain appear in their last known state.



Figure 3. Mini-map Display Showing “Fog of War”

If the player moves the cursor back to one of these areas as in Figure 4, what appeared the last time this area was viewed will be shown, but the player will not receive an update for the area unless troops are returned to the area.



Figure 4. Display Showing “Shrouded” Area in Main Screen

Three different races are available in the game for players to select (or fight against): Terran, Protoss, and Zerg. Each race has its own special capabilities, types of structures, forces, etc. This adds another level of strategy to the game because players are not necessarily playing against equally matched forces. Each one has its own strengths and weaknesses, and players need to know how best to exploit those so that they may win.

In multiplayer games, there are many additional features that can make game play more complex. Players may become allies, thus allowing them to move forces freely about the map without worrying about accidentally firing on friendly forces. In addition, players can make use of a game feature called shared vision (Figure 5). When players share vision with one another, they allow the other player to see everything that they can see, both in the mini-map and in the main screen.



Figure 5. Screenshot of Multiplayer Game with Shared Vision On

In the multiplayer version of StarCraft®, there is no toggle feature for the terrain in the mini-map. Instead, the buttons above the mini-map are for diplomacy (left button),

which allows players to set others as their allies and to share vision with them. The right button is for messaging, allowing players to send text messages to each other. In the mini-map in Figure 5, shared vision is turned on. The player in this game (purple) sees himself represented as green squares. His ally (red) is represented by red squares, and the computer opponent they are playing against is represented by white squares. Due to fog of war some areas are shrouded, but the computer's buildings and resources are still seen on the mini-map even though the location of individual troops is not available.

2. Campaign Editor

StarCraft® comes with a robust campaign editor to allow users to create their own maps. Users can create maps based on desert, jungle, snow, and space platforms, for example. They can create terrain features such as plateaus, cliffs, rivers, roads, bridges, and structures. Features such as trees and neutral creatures can be added into the map for variety. Maps can have up to eight players (human and computer). Properties, units, upgrades, and special abilities can be set for each player. Players can further be broken down into up to four forces, and allies can be hard-wired within the campaign editor.

A feature of the campaign editor that makes it so appealing is that “triggers” can be built into the game. These triggers can be set at the beginning of the game, or can be tied to an event or actions within the game. Thus, specified events can be “staged” throughout the game. The campaign editor also allows various artificial intelligence scripts to be set for the computer so it can be a very formidable enemy or toned down somewhat to allow for longer play.

B. COMMUNICATION

Communication is very important in team activities. It is needed in order to share ideas, strategies, and information. While StarCraft® has a text messaging capability, the argument can be made that voice communication is more natural and less intrusive, especially in stressful situations. There are many applications available to enable voice communication over the Internet. Two that were investigated for this experiment were Microsoft NetMeeting® and Roger Wilco™.

NetMeeting® has the capability to send both audio and video over the Internet between two people. Audio can be sent full duplex, thus allowing two people to

communicate freely without having to wait for each other. A short lag was noticed between one person speaking and the other hearing it over the net, but this was judged to be minimal. Unfortunately, NetMeeting® could not be run on the same machine as StarCraft® due to video resolution.

Roger Wilco™ is freeware that is downloadable from <http://rogerwilco.gamespy.com>. One advantage offered by Roger Wilco™ is that it allows more than two people to communicate freely over the Internet. It has a full duplex mode, so voice communications are more natural. Another feature of Roger Wilco™ is that it can run in the background on the same computer as the game. Unfortunately, it exhibited an even greater lag than NetMeeting®. When one pilot group tried using Roger Wilco™ they were immediately turned off by the lag. The lag was judged to be great enough that it might prove to be a distraction, so the decision was made to use NetMeeting® for the experiment.

C. MAPS

The very nature of StarCraft® requires participants to explore a strange environment; players start the game only knowing about a very small portion of the game world and must explore it in order to find more resources, defeat the enemy, and meet up with or rescue allies. Because players are exploring, an appropriate measure of what players know could be represented by maps. The players see two different versions of the environment while they play. The main screen provides a detailed close-up view of the immediate vicinity around the player's cursor, and the mini-map provides the view of the entire battlespace (although in less detail). By moving through the environment, players should come to have a mental representation of what comprises the battlespace, including structures, enemy and friendly bases, terrain, etc. This map is constantly being updated in accordance with information that the player discovers or that is provided by the player's partner.

IV. METHODOLOGY

A. PARTICIPANTS

Participants for the experiment were recruited from among the Naval Postgraduate School officer-student population. The only restriction placed upon participants was that they had to be native speakers of English. Some familiarity with the StarCraft® game was required, thus participants who were not familiar with the game were given time to practice the game on their own to develop familiarity with how the game is played. Participants were randomly paired off into two-person teams for the experiment. Participants were not tested on their ability to play StarCraft® before starting the study other than making sure that they knew how to play. This study was not meant to be an investigation into the differences between experts and novices, rather it was conducted to investigate how two people who are paired together for a task collaborate in order to perform the task. This issue is relevant because in many military situations, people may be paired together who do not know each other, and while both are familiar with the task, they are not familiar with each other.

The ten participants were all male, with an average age of 32.3 years. Seven of the participants were US Navy officers, one was a US Marine and two were civilians (one of the civilians had prior service in the US Army). Participants had played action/strategy games before, including StarCraft®, Warcraft, Half-Life™, Civilization®, Age of Empires®, and Unreal® Tournament, and had played anywhere from 0.5 hours per month to 2-3 hours per day. Five of the participants had played games with others, four had played as a member of a team, and four had played over a LAN or the Internet. Participants were asked to self-rank themselves on their game playing proficiency as it related to other people; self-rankings ranged from “Novice/usually lose” to “Expert/usually win.” One person ranked himself as a novice, one thought he was between novice and average, three ranked themselves as average, two thought they were above average, and one thought of himself as an expert compared to others.

B. APPARATUS

1. Maps

Four maps were designed for the experiment using the StarCraft® Campaign Editor. Each map measured 128x128 units and used the Jungle World tileset with jungle being the default for the map. Three forces were created for the maps, and they were all designated as Terrans: Force 1 (Allies) consisted of the two participants (Red and Purple); Force 2 (Computer) was the opponent (White); and Force 3 (Observer) was for the human observer (Blue). The two participants in Force 1 were always designated as allies; however, the Observer (Force 3) was not an ally. A copy of each map was made with the Allies set to give each other shared vision. Both the allies' condition and shared vision condition can be set in the campaign editor for each map. By hard-wiring the shared vision condition into the map, the participants would not have to waste time at the beginning of the game setting allied status and shared vision.

Starting locations, buildings and units were supplied for all players so that they would start the game with equal capability, and they would not have to spend time gathering resources to build structures or units. Each player (human and computer) was supplied with a command center, refinery, barracks, academy, two supply depots, four Space Construction Vehicles (SCVs), ten marines, and five firebats (troops equipped with flame-throwers). All players were set to receive 500 units each of the minerals and vespene gas. Provision of resources was a trigger that was set within the campaign editor to occur at the beginning of each game. A trigger was also applied to the computer opponent so that it built and expanded its base and attacked any enemies it encountered (otherwise, the computer would only have defended itself). A trigger was also set to prevent the computer and the subjects from killing all Observer units at the Observer base. The length of the game was also set by a trigger (see Appendix A for the trigger GUIs).

Terrain features (plateaus, rivers, lakes, bridges, temple structures and ruins) were built into the maps to provide some variety and make the game more interesting. These features were randomly scattered throughout the environment on all four maps. Several additional pockets of resources were also scattered throughout each map. Additionally,

map revealers were added for the observer, and the fog of war was “lifted”; thus, the observer could watch participants’ actions on the mini-maps and could quickly look at any area in the main screen by moving and clicking the mouse.

a. Map 1

Map 1 (Figure 6) contains the following features: four buildings, four plateaus (high jungle), one area of water, 17 resources (nine gas geysers and eight mineral deposits), and two areas of raised jungle. These areas of raised jungle, while not as high as a plateau, are impassable and players are forced to walk around them.



Figure 6. Map 1

b. Map 2

Map 2 (Figure 7) contains the following features: four buildings, three plateaus (high jungle), one river, 15 resources (eight gas geysers and seven mineral deposits) and one area of raised jungle.



Figure 7. Map 2

c. Map 3

Map 3 (Figure 8) contains the following features: three buildings, one of which is surrounded by four walls, five plateaus (high jungle), three areas of water (one river, a lake in the middle of the map, and a pool of water at the bottom of the map), 15 resources (eight gas geysers and seven mineral deposits), and three areas of raised jungle. The circular areas where the map is not shrouded are caused by the map revealers. The revealers were not placed close enough together, thus resulting in the shrouded areas outside the revealers' coverage areas.



Figure 8. Map 3

d. Map 4

Map 4 (Figure 9) contains the following features: three buildings, two V-shaped walls, two plateaus (high jungle), three sources of water (two rivers and a pool at bottom center), 14 resources (seven gas geysers and seven mineral deposits), six areas of raised jungle in three groupings. As in Map 3, the map revealers were not placed close enough to each other; this did not affect game play.

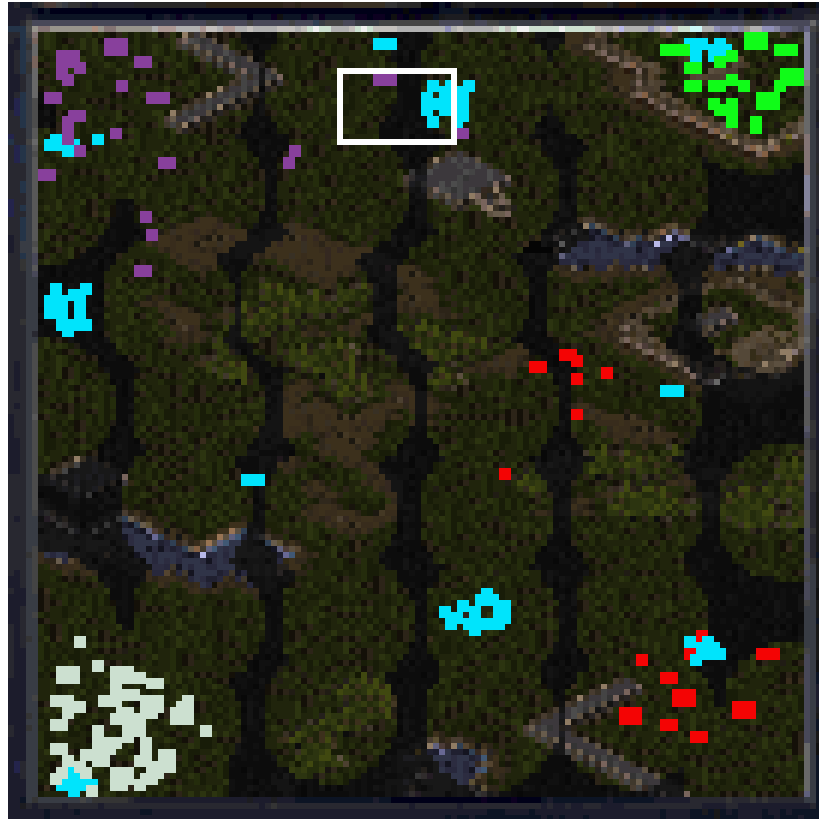


Figure 9. Map 4

2. Apparatus Layout

StarCraft® (v.1.05) was installed on three computers (one for each participant in the study and one for the researcher). As shown in Figure 10, the participants sat facing each other, with their monitors offset so that eye contact could be made. Communication took place over the Microsoft NetMeeting® software that was installed onto two computers that sat beside the participants (one computer ran v.2.11 while the other ran v.3.01). The observer watched on a third computer that sat at the end of the row of desks.

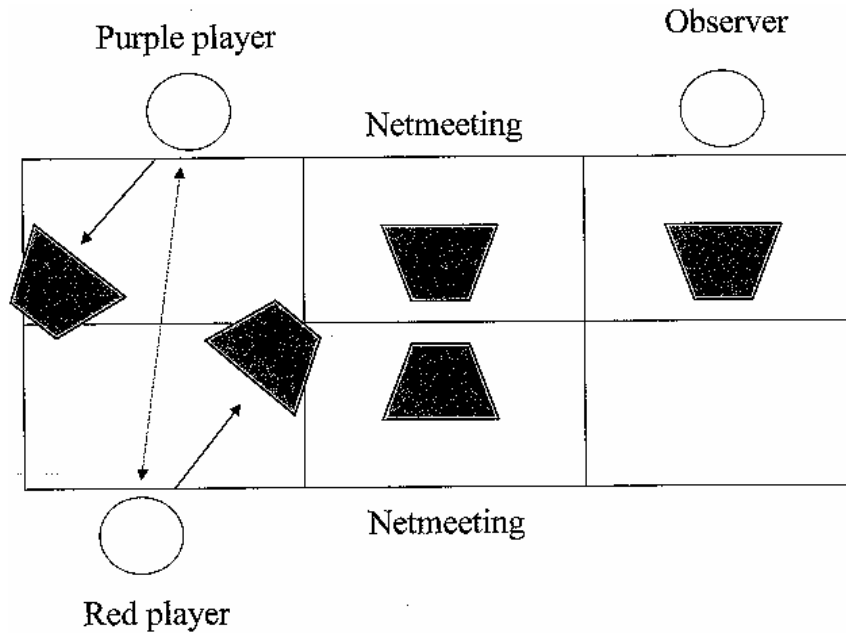


Figure 10. Experiment Set-up

Communications needed to be constant across all conditions, thus headphones and NetMeeting® were used in all trials. Participants wore headsets with boom microphones during each trial in the experiment. There were several reasons for this: (1) to prevent distractions from outside noise and minimize any interference caused by the experiment being conducted in an open lab, and (2) for the distributed condition, using headsets helped the players to hear each other when a barrier was erected between the players to prevent eye contact. Use of NetMeeting® eliminated any unintended effects on the ability to hear voice communications. The connections were made as follows: one cable was run from both the NetMeeting® CPU and the StarCraft® CPU into a Y-coupler which the headphone speaker jack was then plugged into (the headphone microphone was plugged into a cable which then was plugged into the NetMeeting® CPU microphone jack). Thus, players could hear both the voice communications and the sound from the game.

C. PROCEDURE

The experiments were run in February and March of 2001 in the MOVES Lab in Spanagel Hall at the Naval Postgraduate School. The experiments would start in the afternoon and run into the early evening. When participants arrived to participate in the experiment, they filled out consent forms and a demographic questionnaire (contained in

Appendix B). A script was then read to participants (see Appendix C), to explain details of the experiment. Participants played as a team against the computer opponent; however each player controlled their own forces. The goals for the participants were to stay alive for the full 30 minutes and to explore as much of the environment as they could in that time.

Two independent variables were manipulated in the experiment: shared vision and distribution (whether team members could make eye contact or not). For two games, eye contact was prevented by erecting a barrier between the players, and for two games shared vision was turned on. Therefore, the four treatment conditions were: no barrier/no shared vision (NSV); barrier/no shared vision (DNSV); no barrier/shared vision (SV); and barrier/shared vision (DSV). In order to prevent practice effects, each game was played on a different map. There are 24 different possibilities for both map order and treatment condition order; therefore, 576 different combinations were possible for the experiment. To lessen the effect of interaction between a map and treatment condition, each pair of participants was randomly assigned a map order and a treatment condition order.

Participants played four games that ran 30 minutes each. At ten minute intervals, the observer paused the game, and the participants were asked to draw a map from memory and answer a questionnaire (see Appendix D) that covered the ten minute block that had just been played. At the first pause, the players drew the map from “scratch”. At the second pause and at the end of the game, players only needed to update their maps. The maps were drawn using whiteboards and four colored markers (red, green, blue, and black). A square area for participants to draw in was marked out (the whiteboards were rectangular in shape), and participants were not held to a specific color scheme. During these periods, participants were not allowed to talk with each other or look at each other’s maps. Monitors were also turned off during this time. A maximum of ten minutes was allotted for this portion of the experiment. After participants were finished, the maps were put aside, and gameplay resumed. Participants and the observer all took a screen capture at this time for later comparison to the maps that were drawn.

Participants were allowed to communicate freely while the game was in play. All communications were recorded using a lapel microphone that was secured on the desk between the players. When the barrier was up, the microphone was placed in a hole that was cut out thus enabling clear recording. When the 30-minute timer in the game ran out, the last round of screen captures was taken, the observer stopped the game, the maps were updated, and the questionnaires were filled out again. Participants were allowed short breaks between games, but no discussion of the game or experiment was allowed at this time.

The following data was collected during each trial: voice communications, digital photos of each of the maps, and screenshots of each player's screen at the ten-minute pauses. StarCraft® provides numerical scores at the end of each game for units, resources, and structures. This data was collected and transferred into a Microsoft Excel® database (see Appendix E).

THIS PAGE INTENTIONALLY LEFT BLANK

V. ANALYSIS

A. GAME SCORES

When people play computer games they often use the score at the end as a measure of how well they played the game. While the game score was not directly related to the research question (in that the score itself is not an indicator of situational awareness), the game score could be used to determine if there were any learning effects or differences in the degree of difficulty between maps. Appendix E contains the game scores for each player (including the computer opponent). Only the individual totals for red and purple were used in the following calculations.

First, an analysis of variance was performed to determine if there was an effect caused by game order (i.e., the null hypothesis being tested was that there was no difference between the games). Figure 11 is a graph of the teams' performance by game order.

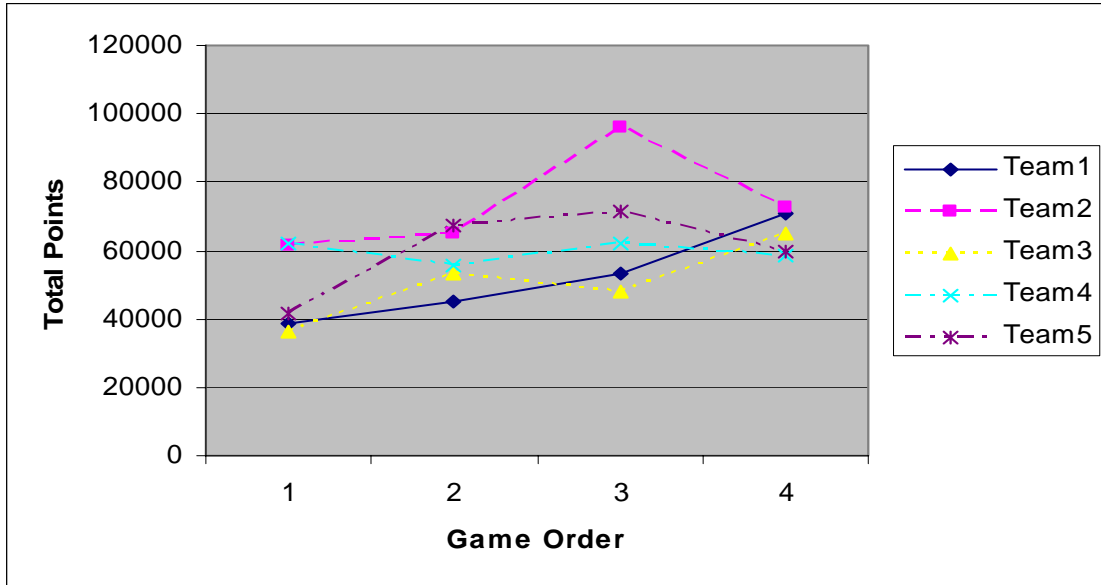


Figure 11. Performance by Game Order

Sums for the game totals were as follows: $A_{G1} = 239305$; $A_{G2} = 286011$; $A_{G3} = 330751$; and $A_{G4} = 326990$. The number of observations for each game was $n = 10$. Appendix F lists the equations used to perform the analysis of variance for the data for

this experiment. Using equations (1) through (11), the following summary table for the Single Factor Analysis of Variance (ANOVA) was produced:

Source	SS	df	MS	F
A	548189290	3	182729763.3	2.0148
S/A	3265046830	36	90695745.28	
Total	3813236120	39		

Table 1. Summary Table for the Analysis of Variance by Game Order

Assuming a significance level of $\alpha = 0.05$, we can use a table of Critical Values of the F Distribution (F table) to determine that $F_{(3,36)} = 2.84$ (the value for $F_{(3, 40)}$). The null hypothesis would only be rejected if F_{observed} was greater than or equal to 2.84. Because it is not, the null hypothesis cannot be rejected; therefore, it appears that the game order did not have an effect on the experiment results.

By using equation (12), omega squared is determined to be equal to 0.070. Therefore, seven percent of the variance is due to the game order.

Next, the game scores were studied for each map to determine if there was any difference in difficulty among the maps. Figure 12 is a graph of the teams' performance by map. Looking at Figure 12, it appears that Map 3 may be easier than the other maps.

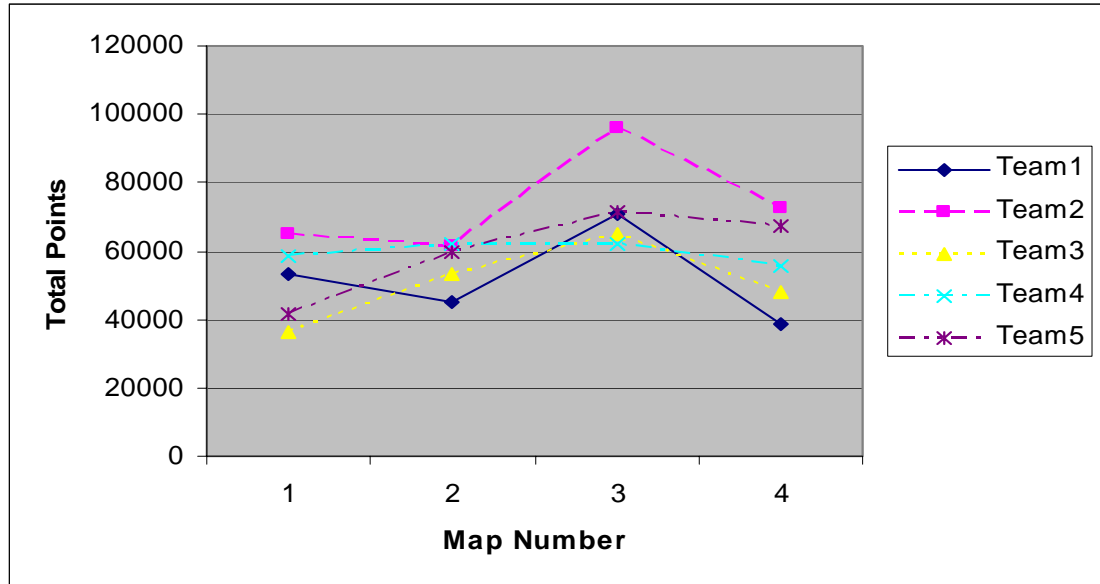


Figure 12. Performance by Map

The sums for the game totals in this analysis were: $A_{M1} = 253961$, $A_{M2} = 281562$, $A_{M3} = 365526$, and $A_{M4} = 282008$. Following the same steps performed above, the following summary table was produced:

Source	SS	df	MS	F
A	700515180	3	233505060	2.7006
S/A	3112720940	36	86464470.56	
Total	3813236120	39		

Table 2. Summary Table for the Analysis of Variance by Map

Again, F_{observed} was less than 2.84, so the null hypothesis was not rejected. There was no difference between maps. Omega squared was computed to be 0.1131; 11 percent of the variance could be attributed to differences among the maps.

B. COMMUNICATIONS

Approximately ten hours of tape were transcribed (Appendix G). Each tape was listened to twice to ensure accuracy as near as possible. The tapes were transcribed the first time they were listened to, then were corrected during the second listening. The observer was represented by “A”, the red ally by “R”, and the purple ally by “P”. In

instances where the audio was not clear, square brackets ([]) were used to mark the text. If nothing could be understood, the brackets were left empty. Participants did not talk constantly through the half-hour experiments; therefore, an ellipsis (...) was used to signify that there was a significant pause in the conversation. For the purposes of this experiment, it was determined that anything over three seconds was significant. The tape counter on the recorder was used to judge the pauses in conversation.

The audio tapes were primarily recorded in order to provide additional qualitative information for the experiment; for example, the transcripts could be reviewed to see if there were indications that a team was straying from the goal or was “losing the bubble”. The amount of communication cannot be tied to a team’s performance: some teams had members who talked to themselves while playing the game which added to the length of transcription.

C. SCREEN SHOTS VS. MAP COMPARISON

1. Data Generation

As stated previously in Chapter IV, Section C, the participants were required to draw three maps, one every ten minutes, during the course of each trial. SA was assessed by comparing the accuracy of the maps drawn with what the players had actually been able to see at the time the game was paused. The player received a point if a feature was accurately identified (i.e., a building was identified as a building and not as a plateau), and if it was positioned fairly accurately within the map that was drawn (i.e., if a river is positioned horizontally, it was not drawn vertically). Misidentified or omitted features would be worth zero points. The comparison was only based upon those features that had been built into the game (see Chapter IV, Section B). Units such as troops, airships, barracks, command centers, etc. were not counted because there would be too wide a variance among the players that could skew the results. Also, it was not possible to identify individual units that the players have added by looking at the mini-maps; the resolution was not high enough. However, many players drew individual buildings and units on their maps.

Figure 13 is an example of the comparison and scoring. The mini-map on the left is from the red player’s screen shot. This game was played using shared vision, so red

can see everything his partner (purple) sees. The entire map was uncovered in the first ten minutes of game play; therefore, the player had seen the square building with the hole in the center, the two mineral deposits, and the gas geyser. When it came to scoring his map, he was given three points for the circled features; he did not draw the second mineral deposit on his map (identified by the empty ellipse), so received zero points for that feature.

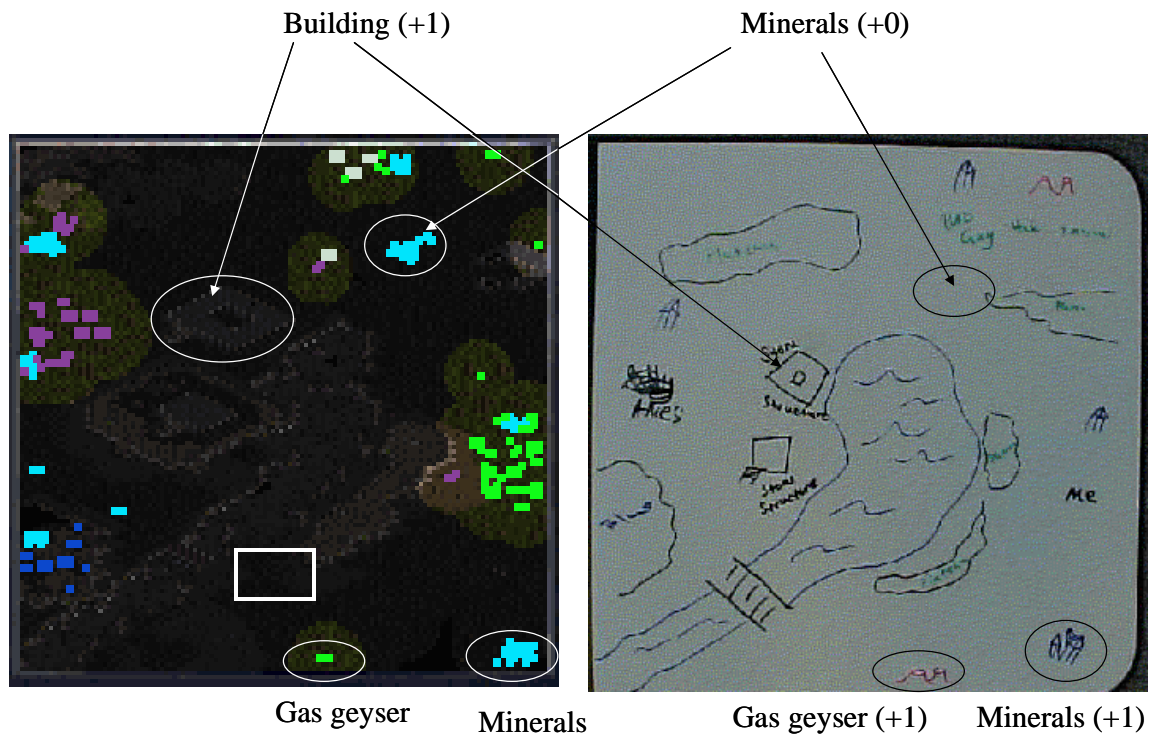


Figure 13. Example of Map Comparison and Scoring

To aid in the identification of specific features, the Campaign Editor tool was used as well, so the maps could be examined closely (vice using the mini-map) and proper identification of features could be made. This comparison and scoring was done on all screen shots and maps. In instances where a screen shot was missing because the subject forgot to do the screen capture, the number of correctly drawn elements was still counted. If a map was missing (due to either the experimenter forgetting to take the photo or to download it from the digital camera to the computer), the number of

uncovered features on the mini-map was still used; the number of observations for the trial was adjusted accordingly. Appendix H contains the data generated from the map comparison.

2. Statistical Analysis

Two variables, distribution and shared vision, were manipulated in the experiment, therefore, the experiment had a two-variable factorial design. Equations (13) through (22) in Appendix F were used for the statistical analysis. The first step in conducting the analysis was to compute the sums (AB) for the four treatment conditions. The variables were designated by “A” for distribution and “B” for shared vision. The specific treatment conditions were:

- a_1b_1 – Distributed, Shared Vision, or DSV;
- a_2b_1 – Not Distributed, Shared Vision, or SV;
- a_1b_2 – Distributed, No Shared Vision, or DNSV;
- and, a_2b_2 – Not Distributed, No Shared Vision, or NSV

The sums for each treatment condition equaled the total of the number of features either uncovered or drawn for all subjects. Due to either experimenter or subject error, there were unequal sample sizes for most of the trials. A valid approach when working with unequal sample sizes is to do an analysis of unweighted means, which was the approach used for this analysis. The harmonic means, n_h , were computed by using Equation (13). Next, an adjusted AB* matrix was filled out by using Equation (14) to compute the adjusted sums. After computing the basic ratios, sums of squares, mean squares and F ratios (Equations (15) through (22)) the following Two-Factor Analysis of Unweighted Means tables were produced. Tables 5 and 11 are the exception in that there was a complete set of observations for these trials; those tables are Two Factor ANOVA tables. F ratios marked with an asterisk signify that for $\alpha = 0.05$, F_{observed} was greater than or equal to $F_{(\text{num}, \text{denom})}$, and so the null hypothesis could be rejected; i.e., there was a difference between the results based upon treatment condition. What is seen here is that variable B, shared vision or lack of it, appeared to have a significant effect on the number

of features uncovered with 20 minutes left, ten minutes left, and at game end, and on the number of features that the subjects drew with 20 minutes left. There was no significant effect seen when the data was combined for the team scores.

In the next chapter, the results from the experiment will be discussed.

Source	SS	df	MS	F
A	3.387	1	3.387	0.053
B	813.87	1	813.87	12.85*
A x B	108.781	1	108.781	1.72
S/AB	2152.9	34	63.32	

Table 3. Individual Scores, Uncovered Features, 20 Minutes Left

Source	SS	df	MS	F
A	14.703	1	14.703	0.49
B	81.89	1	81.89	2.74*
A x B	10.375	1	10.375	0.37
S/AB	1017.1	34	29.915	

Table 4. Individual Scores, Drawn Features, 20 Minutes Left

Source	SS	df	MS	F
A	6.4	1	6.4	0.11
B	562.5	1	562.5	9.59*
A x B	40	1	40	0.68
S/AB	2112	36	58.667	
Total	2720.9	39		

Table 5. Individual Scores, Uncovered Features, 10 Minutes Left

Source	SS	df	MS	F
A	3.111	1	3.111	0.05
B	31.34	1	31.34	0.52
A x B	4.288	1	4.288	0.07
S/AB	2066.9	34	60.791	

Table 6. Individual Scores, Drawn Features, 10 Minutes Left

Source	SS	df	MS	F
A	26.312	1	26.312	0.50
B	267.616	1	267.616	5.12*
A x B	29.988	1	29.988	0.57
S/AB	1827.289	35	52.208	

Table 7. Individual Scores, Uncovered Features, Game End

Source	SS	df	MS	F
A	8.023	1	8.023	0.12
B	10.273	1	10.273	0.15
A x B	0.273	1	0.273	0.004
S/AB	2212.65	32	69.145	

Table 8. Individual Scores, Drawn Features, Game End

Source	SS	df	MS	F
A	0.238	1	0.238	0.004
B	27.671	1	27.671	0.49
A x B	67.066	1	67.066	1.18
S/AB	849.95	15	56.663	

Table 9. Team Scores, Uncovered Features, 20 Minutes Left

Source	SS	df	MS	F
A	8.262	1	8.262	0.27
B	20.265	1	20.265	0.66
A x B	30.003	1	30.003	0.98
S/AB	460.75	15	30.717	

Table 10. Team Scores, Drawn Features, 20 Minutes Left

Source	SS	df	MS	F
A	7.2	1	7.2	0.15
B	5	1	5	0.10
A x B	12.8	1	12.8	0.27
S/AB	755.2	16	47.2	
Total	780.2	19		

Table 11. Team Scores, Uncovered Features, 10 Minutes Left

Source	SS	df	MS	F
A	118.026	1	118.026	2.52
B	48.429	1	48.429	1.03
A x B	193.232	1	193.232	4.12
S/AB	702.75	15	46.85	

Table 12. Team Scores, Drawn Features, 10 Minutes Left

Source	SS	df	MS	F
A	17.437	1	17.437	0.48
B	2.144	1	2.144	0.06
A x B	10.239	1	10.239	0.28
S/AB	542.75	15	36.183	

Table 13. Team Scores, Uncovered Features, Game End

Source	SS	df	MS	F
A	10.326	1	10.326	0.23
B	2.334	1	2.334	0.05
A x B	1.001	1	1.001	0.02
S/AB	635.55	14	45.396	

Table 14. Team Scores, Drawn Features, Game End

THIS PAGE INTENTIONALLY LEFT BLANK

VI. RESULTS AND DISCUSSION

A. EFFECT OF TREATMENT VARIABLES ON SA

1. Distribution

Results of the statistical analysis using the map features indicate that whether a team was distributed or not had no significant effect on their SA (as measured by the mapping experiment). This lack of an effect of having participants play in the distributed condition is interpreted as resulting from the fact that distribution did not impact the amount of information that was available to the players because most information was provided via voice communications and shared vision (when turned on). This was also borne out by the players' responses to items on the questionnaires that were administered during the breaks in the game. Most of the time, players stated that they did not need to make eye contact with their partner. Reasons participants stated for not needing eye contact were that there was enough information available via the screen (especially true if shared vision was on), the voice communications were good, or the game play was intense, thus, the players felt they were too busy playing the game to look at their partner. One team reported that they made eye contact not in stressful situations, but when joking. Other players reported trying to make eye contact, but because their partner was not looking at them they gave up. Only one player reported looking at his partner for confirmation that the information being shared was correct. But this was a rare instance, and it did not occur during every game. Another reason for not needing eye contact may be that in this game the stakes were not high enough for the types of cues provided by eye contact to matter. Players were aware that they were playing a computer game, and that there would not be any negative ramifications from the game outcome. In a real world task seeing the flash of doubt or a questioning or confused look may have more meaning for players and be more important than for this game.

2. Shared Vision

Shared vision had a much greater effect when it came to the amount of map features uncovered. This makes sense due to the fact that since each player can see what their partner sees, the map can effectively be revealed in half the time. If each player

could only see what was in his local area, each player would have to uncover the entire map in order to reveal all the elements. Somewhat surprisingly, shared vision only had a significant effect on the number of features correctly drawn on the first map. This may be attributable to the fact that on the first map drawn, the team members were able to draw many more features when shared vision was turned on than when it was not. As play progressed in the shared vision condition, however, members did not add significantly more elements to their maps compared to the trials without shared vision. In the no shared vision condition, players appear to have been able to “catch up” during the second and third map sessions.

B. INDIVIDUAL VS. TEAM PLAY

The effect of providing shared vision was only measurable when the analysis was performed on the individual participant data. No effect was found when the team data was analyzed. This is interpreted as being due to the fact that in order to produce the team data only unique features were counted. Shared vision would have less of an effect for the following reason: if two people had shared vision, uncovered all the features, and successfully mapped them, that would count the same as two people without shared vision, who each uncovered half the map, and successfully drew all the features. This does not mean that shared vision is not beneficial to the game player, however. Many of the team members commented that the shared vision provided a lot of information.

VII. CONCLUSION

A. EXPERIMENT DISCUSSIONS

1. StarCraft®

StarCraft® is a useful game for studying situational awareness. The game presents a dynamically changing environment that can be stressful to the players. Even though the computer opponent can be tweaked, no two games will play out the same. Some players commented in the questionnaires and voice communications that the computer opponent was harder to play in some games than in others. Since the computer opponent was rigged to play at the same level throughout all the games, any difficulty the players encountered was actually caused by them: the longer the players waited before encountering the computer, the more quickly it could build up and outpace them, and the harder it would become to defeat.

One negative aspect of using StarCraft® is that many players focused in on playing the game (which they were tasked to do) somewhat to the detriment of the directed task which was to also explore as much of the environment as possible. The maximum map size that can be created in the campaign editor is 256x256 units; the maps for this experiment were only 128x128. Better players quickly became bored if they vanquished the computer within the first ten minutes. That left them 20 minutes in which they had nothing to do but explore the terrain and memorize map features. However, this then resulted in some of the most detailed maps produced.

2. Maps

Maps drawn by a participant can be a useful tool for assessing SA. Maps provide a pictorial representation of the information that the player has acquired and stored in memory. Unfortunately, assessing the map accuracy was somewhat difficult because there was a wide variety of symbology that was used to draw different map features. Some players used only one color of marker to draw all features while others used different colors to highlight different types of features (i.e., blue for water and resources, thus making them easier to recognize for the data generation). There was also a problem with the spatial representation of the battlefield: while some subjects had the features

correct, one feature placed in the wrong place could throw off the rest of the map. For instance, one subject commented that he drew things too large and then had trouble drawing the map correctly.

3. Treatment Effects

The problem statement being researched in this thesis was how access to information affected distributed team collaboration. The measure of collaboration used was SA and this was itself measured by map accuracy. If SA was directly dependent on the amount of information available, it may be expected that the players would perform the worst without access to any extra information, i.e., in the DNSV condition. They may perform better in NSV, then DSV, and they would perform best in the SV condition. After running the experiment and performing the analysis, there was no measurable effect attributable to distribution. This may be due to the fact that voice communications were so clear and the game provides a considerable amount of information itself. There was an effect attributable to shared vision, but surprisingly, it was not measurable beyond the first ten minutes of play. While it may appear that shared vision was beneficial in the beginning of the task, the following point has to be remembered. All subjects had access to the same information; they just had to work harder to get it if they did not have shared vision. So while shared vision meant that subjects had access to a lot of information quickly, it is possible that after enough time, NSV subjects had been able to move around the terrain enough that they were able to essentially “catch up” in their knowledge of the environment and their SA.

B. FUTURE WORK

There are many possibilities for future work out of this research. Using the same experimental design, it would be very interesting to investigate how subjects would do when truly distributed (i.e., playing from different rooms). Due to space constraints, this was not able to be explored, but it would be interesting to note if distributed players in the same room perform differently than those distributed between rooms; perhaps there is an effect if someone knows that they really are not distributed. Following along that same path it would be interesting to investigate physically distributed teams that use Internet cameras (i.e., videophone) while playing the game.

Because many of the players commented on the fact that the voice communications were very good, another variable that could be investigated would be to assess SA when voice communications are bad and nonexistent. The game has a text chat capability which the players in this experiment were not allowed to use – partly because no record could be maintained of the chats in the game, partly because it was deemed to be more intrusive – so the use of text chat vs. voice could be explored as well.

Due to the difficulty that some players had with drawing maps, a possible consideration for future work would be to provide magnets or decals of the different map features that players could then stick onto the map surface instead of trying to draw freehand. Required symbology and map colors could be specified as well. While this last point may not be an issue for investigation, it would make data generation easier on the experimenter.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A. LIST OF TRIGGERS APPLIED TO MAPS

A. COMPUTER TRIGGERS

The following is a screen capture of the GUI in StarCraft® that allows users to create or modify triggers for players. These triggers were applied to players by the force they were in. These triggers are for the computer opponent.

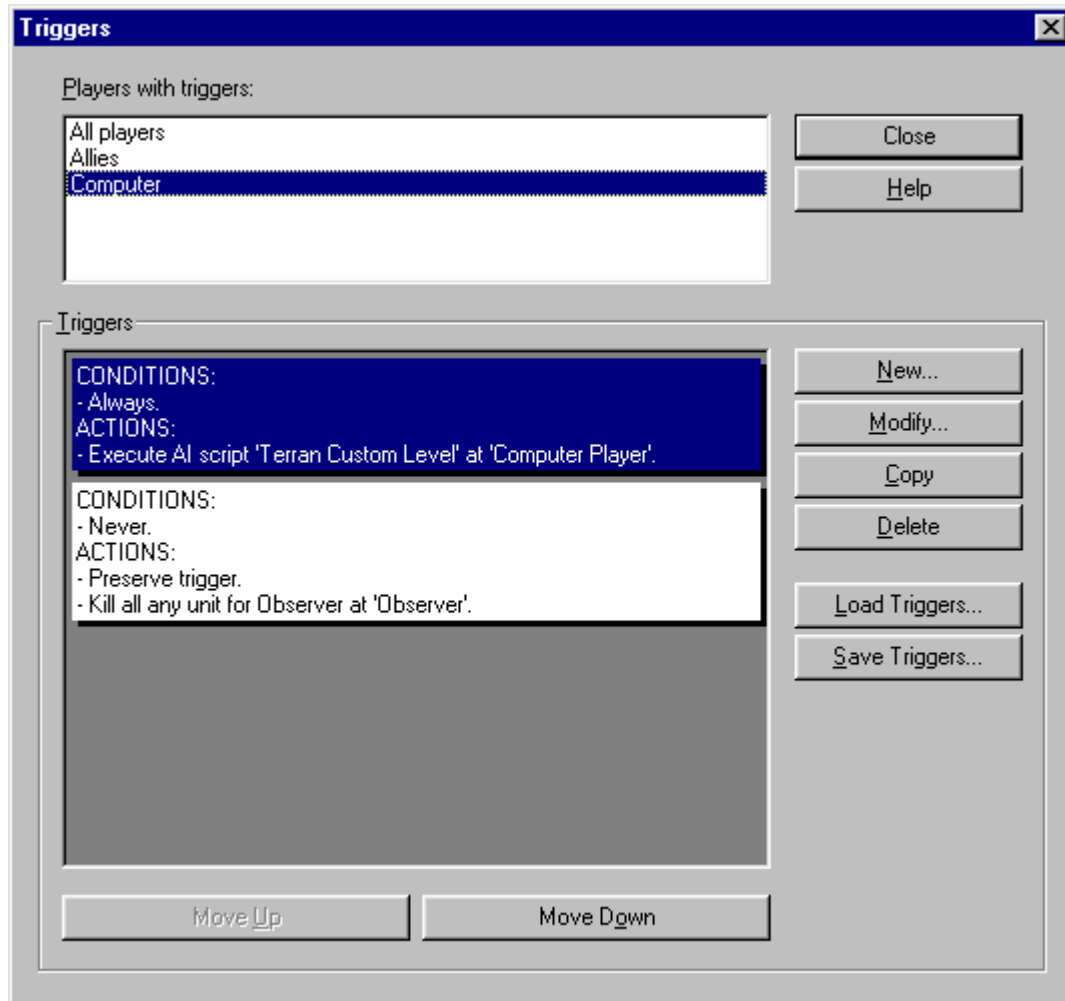


Figure 14. Display of Computer Triggers

B. ALLIED TRIGGERS

The following displays the triggers set for the allied players:

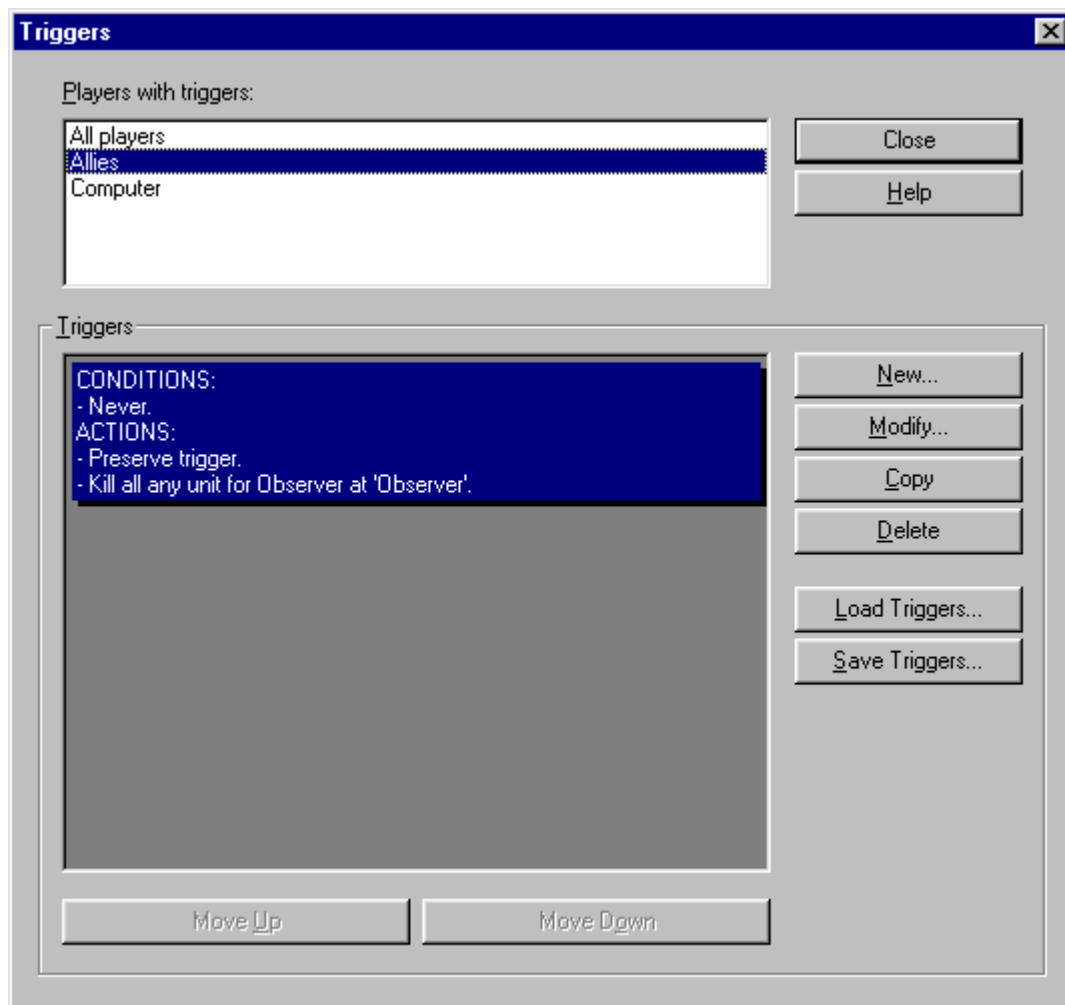


Figure 15. Display of Allied Triggers

C. TRIGGERS FOR ALL PLAYERS

The following triggers were applied to all players to include the Observer:

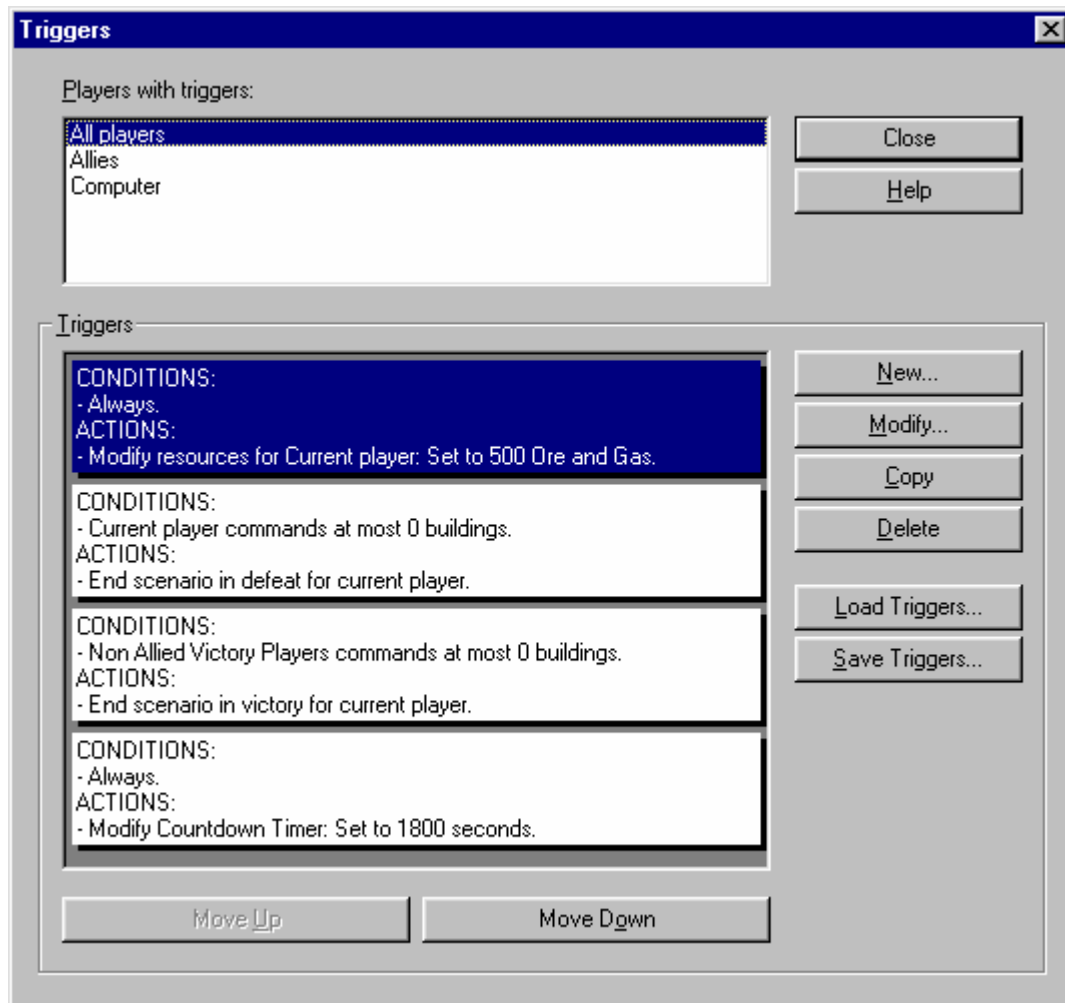


Figure 16. Display of Triggers for All Players

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX B. DEMOGRAPHICS QUESTIONNAIRE FOR PARTICIPANTS

QUESTIONNAIRE FOR DISTRIBUTED TEAM SITUATIONAL AWARENESS EXPERIMENT

Date of Test: _____ **Subject No:** _____ (Assigned during testing)

Last Name: _____ **First Name:** _____ **Rank:** _____

Age: _____ **Sex:** Male / Female **Citizenship:** U.S. Foreign: _____

Email Address: _____

Military Service: Navy Marine Army Air Force USCG
Civilian Other: _____

Years of Active Military Service: _____

Military Designator/Warfare Specialty: _____ (i.e. 1110/SWO, 1310/Pilot)

1. Is your vision at least 20/20 or correctable to 20/20? Yes / No
2. Do you wear glasses or contacts to correct your vision? Yes / No
3. Are you colorblind? Yes / No
4. Do you play action/strategy computer games? Yes / No If yes, which games do you play? _____
5. How often do you play computer games? _____ hours per: day / week / month
6. Do you ever play computer games with others? Yes / No
7. As a member of a team? Yes / No
8. Over a LAN or over the Internet? Yes / No
9. How proficient do you consider yourself to be at computer games compared to others?

☐
 Novice/usually lose

☐
 Average/can hold own

☐
 Expert/usually win games

Subject's Signature

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX C. SCRIPT FOR EXPERIMENT

SCRIPT

(read after getting forms signed)

Today you will be participating in an experiment to look into Distributed Team Collaboration.

The task you will be performing today will consist of playing the Starcraft video game with one other person as a team against the computer. The goals are to explore as much of the environment as possible while staying alive for the full 30 minutes. You will play on 4 different maps in order to test all variables. Verbal communication will be over headsets, using the NetMeeting software. I ask that you be sure to communicate key events (attacks, movements, building resources, etc.) as the only file of the game will be the voice communications.

Each game will run a total of 30 minutes maximum. The game will be paused twice during these 30 minutes, and you will be asked to draw a map of the environment from memory and record features that you remember from the environment (key structures, allied/enemy bases, resources, terrain features, areas you've explored vice areas you've learned about from your partner, numbers of personnel and equipage, etc.). A questionnaire will also be provided. You will also draw the map and answer the questionnaire at the end of the 30 minutes. You are not allowed to communicate during this portion of the exercise! In addition, there is to be no communication about the experiment except when the game is actually being played (all communications will be taped for transcription). You will be given a maximum of 10 minutes to draw the map and answer the questionnaire. Breaks will be taken between each game trial.

THIS PAGE INTENTIONALLY LEFT BLANK

[illegible]

6. Did you ever change your strategy based upon information your partner provided?

Yes / No

7. Did you ever ignore or discount information your partner provided to you?

Yes / No

8. Did you feel you had a good grasp of the action in the game as it unfolded?

☐ ☐ ☐ ☐ ☐
Not At All Average Very Good Grasp

9. Did you feel your partner had a good grasp of the action in the game as it unfolded?

☐ ☐ ☐ ☐ ☐
Not At All Average Very Good

10. Did you feel like one of you took on the role as leader? Yes / No

If yes, who was it? Me / My partner

Why do you feel that this person became the leader?

11. For games without the barrier: did you make eye contact with your partner?

Yes / No

Why or why not?

12. For games with the barrier: did you feel the need to make eye contact with your partner?

Yes / No

Why or why not?

13. Write any additional comments below (you may continue onto back of sheet):

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX E. GAME SCORES

The following two tables are the scores for the five groups that participated in the experiment. Table 1 contains the scores for the first two games, and Table 2 contains the scores for the last two games. The treatment condition is identified by map number and condition; hence, 4DSV equates to Map 4, Distributed, No Shared Vision. 2SV equates to Map 2, Shared Vision.

Group1-Game1-4DSV					Group1-Game2-2NSV			
	Units	Structures	Resources	Total	Units	Structures	Resources	Total
Computer	27975	5515	23936	57426	33650	7210	17960	58820
Purple	8350	2340	13208	23898	18000	1615	11884	31499
Red	5625	1750	7072	14447	5700	1265	6408	13373
Team	13975	4090	20280	38345	23700	2880	18292	44872
Group2-Game1-2SV					Group2-Game2-1DNSV			
	Units	Structures	Resources	Total	Units	Structures	Resources	Total
Computer	5500	850	2864	9214	5600	950	5384	11934
Purple	8175	4775	19956	32906	18400	8995	16856	44251
Red	11975	4600	11736	28311	10600	2625	7352	20577
Team	20150	9375	31692	61217	29000	11620	24208	64828
Group3-Game1-1DNSV					Group3-Game2-2DSV			
	Units	Structures	Resources	Total	Units	Structures	Resources	Total
Computer	23625	5665	22976	52266	22250	5140	14464	41854
Purple	5025	1665	6608	13298	13050	2040	9480	24570
Red	9800	2240	10868	22908	9825	3065	15928	28818
Team	14825	3905	17476	36206	22875	5105	25408	53388
Group4-Game1-3DNSV					Group4-Game2-4SV			
	Units	Structures	Resources	Total	Units	Structures	Resources	Total
Computer	26300	5215	18092	49607	3450	900	2416	6766
Purple	9600	3580	14404	27584	5850	6215	14868	26933
Red	14575	4815	15172	34562	8575	4565	15768	28908
Team	24175	8395	29576	62146	14425	10780	30636	55841
Group5-Game1-1NSV					Group5-Game2-4SV			
	Units	Structures	Resources	Total	Units	Structures	Resources	Total
Computer	33000	5565	22980	61545	26100	2665	13208	41973
Purple	14525	2415	9912	26852	23150	4465	12768	40383
Red	7400	1475	5664	14539	12750	2265	11684	26699
Team	21925	3890	15576	41391	35900	6730	24452	67082

Table 15. Scores for Games 1 and 2

Group1-Game3-1DNSV					Group1-Game4-3SV				
	Units	Structures	Resources	Total	Units	Structures	Resources	Total	
Computer	35675	6990	24504	67169	48100	3790	14484	66374	
Purple	14250	2015	10668	26933	13925	2415	11860	28200	
Red	12250	2390	11524	26164	22475	3565	16388	42428	
Team	26500	4405	22192	53097	36400	5980	28248	70628	
Group2-Game3-3DSV					Group2-Game4-4NSV				
	Units	Structures	Resources	Total	Units	Structures	Resources	Total	
Computer	32700	2865	13748	49313	37200	3440	21404	62044	
Purple	22650	8095	20264	51009	22225	3015	14888	40128	
Red	20375	4330	20368	45073	12275	3655	16788	32718	
Team	43025	12425	40632	96082	34500	6670	31676	72846	
Group3-Game3-4SV					Group3-Game4-3NSV				
	Units	Structures	Resources	Total	Units	Structures	Resources	Total	
Computer	27675	4765	21092	53532	29600	5365	21060	56025	
Purple	7150	2140	6176	15466	5850	2140	8280	16270	
Red	13700	3140	15588	32428	27150	3140	18544	48834	
Team	20850	5280	21764	47894	33000	5280	26824	65104	
Group4-Game3-2NSV					Group4-Game4-1DSV				
	Units	Structures	Resources	Total	Units	Structures	Resources	Total	
Computer	3100	775	1656	5531	32275	5715	22848	60838	
Purple	8775	3300	13774	25849	12250	2190	10856	25296	
Red	10400	6815	19048	36263	14150	3065	15928	33143	
Team	19175	10115	32822	62112	26400	5255	26784	58439	
Group5-Game3-3DSV					Group5-Game4-2DNSV				
	Units	Structures	Resources	Total	Units	Structures	Resources	Total	
Computer	24750	3415	13188	41353	1650	2315	9488	13453	
Purple	20900	9360	15656	45916	14075	8810	14616	37501	
Red	3150	4880	17620	25650	12650	2190	7632	22472	
Team	24050	14240	33276	71566	26725	11000	22248	59973	

Table 16. Scores for Games 3 and 4

APPENDIX F. STATISTICAL COMPUTATIONAL FORMULAS

The formulas listed below were used for the statistical analysis of the experimental data. When analyzing data from a single factor experiment the following formulas can be used:

The treatment means can be computed by the following formula:

$$(1) \quad \bar{Y}_A = A/n$$

where A is the treatment sum and n is the number of observations for the treatment.

The grand sum can be computed by the following formula:

$$(2) \quad T = \sum Y = \sum A$$

where Y is the score for an individual subject.

The formulas for the three basic ratios (Y scores, treatment sums, and grand total, respectively) are as follows. The convention of identifying the basic ratios as “bracket terms” has been adopted from Keppel (1991):

$$(3) \quad [Y] = \sum Y^2$$

$$(4) \quad [A] = \frac{\sum A^2}{n}$$

$$(5) \quad [T] = \frac{T^2}{(a)(n)}$$

The within-groups sum of squares, treatment sum of squares, and total sum of squares are as follows. For simplicity, the bracket terms listed above are used:

$$(6) \quad SS_{S/A} = [Y] - [A]$$

$$(7) \quad SS_A = [A] - [T]$$

$$(8) \quad SS_T = [Y] - [T]$$

The formulas for the mean squares are as follows:

$$(9) \quad MS_A = SS_A / df_A$$

$$(10) \quad MS_{S/A} = SS_{S/A} / df_{S/A}$$

Lastly, the F ratio is computed by:

$$(11) \quad F = MS_A / MS_{S/A}$$

Table 17 shows how the formulas are used to compute an Analysis of Variance (ANOVA) table:

Source	SS	df	MS	F
A	SS_A	$a - 1$	MS_A	$MS_A/MS_{S/A}$
S/A	$SS_{S/A}$	$(a)(n - 1)$	$MS_{S/A}$	
Total	SS_T	$(a)(n) - 1$		

Table 17. Summary Table for Analysis of Variance with Formulas

Omega squared (ω^2) is used as a measure of the relative magnitude of the experiment; that is, how much of the variance is due to the treatment conditions. Omega squared can be computed as follows:

$$(12) \quad \omega^2 = \frac{SS_A - (a - 1)(MS_{S/A})}{SS_T + MS_{S/A}}$$

For a two-variable factorial experiment, the following formulas can be used. In the instances of unequal sample size, an analysis of unweighted means can be conducted. This was the approach taken for this analysis. To compute the harmonic mean for the two-way factorial, the following formula is used:

$$(13) \quad n_h = \frac{(a)(b)}{\sum \left(\frac{1}{n_{ij}} \right)}$$

where a and b are the number of treatments for each variable.

The unweighted AB sum, designated AB* as in Keppel (1991), can be computed by

$$(14) \quad AB^* = n_h (\bar{Y}_{AB})$$

The formulas for the basic ratios are:

$$(15) \quad [T^*] = \frac{(T^*)^2}{(a)(b)(n_h)}$$

$$(16) \quad [A^*] = \frac{\sum (A^*)^2}{(b)(n_h)}$$

$$(17) \quad [B^*] = \frac{\sum (B^*)^2}{(a)(n_h)}$$

$$(18) \quad [AB^*] = \frac{\sum (AB^*)^2}{n_h}$$

The formulas for the sum of squares are:

$$(19) \quad SS_A = [A^*] - [T^*]$$

$$(20) \quad SS_B = [B^*] - [T^*]$$

$$(21) \quad SS_{A \times B} = [AB^*] - [A^*] - [B^*] + [T^*]$$

$$(22) \quad SS_{S/AB} = \sum Y^2 - [AB]$$

The formulas for the mean squares and the F ratio are the same as in the single factor ANOVA. Table 18 shows the summary table for an analysis of unweighted means:

Source	SS	df	MS	F
A	SS_A	$a - 1$	MS_A	$MS_A/MS_{S/AB}$
B	SS_B	$b - 1$	MS_B	$MS_B/MS_{S/AB}$
A x B	$SS_{A \times B}$	$(a-1)(b-1)$	$MS_{A \times B}$	$MS_{A \times B}/MS_{S/AB}$
S/AB	$SS_{S/AB}$	$(a)(b)(n-1)$	$MS_{S/AB}$	

Table 18. Summary Table for Two-Factor Analysis of Unweighted Means

APPENDIX G. EXPERIMENT TRANSCRIPTS

Group 1 Trial 1

A: Okay, now recording
P: Roger, we got to find the, uh, some mineral resources. Here we go.
P: Okay, I'm at the upper left corner of the maze.
R: I'm at the lower right, I sent some marines up to the, slowly working them around. Now I'm going to try to get some people collecting resources.
P: There you go, I've got my guys doing that.
R: Terran marine, alright.
P: alright, I've got my pyro babies going.
R: I'm collecting some of the crystal stuff.
P: There you go. I'm setting up a perimeter. Let's see, let's start building some more. There we go. Let's get your butt over here.
R: I sent some marines out patrolling on the...they don't seem to be...alright I'm getting the hang of it here. Alright, now I sent some marines out patrolling to the one side.
P: Alright, yeah, I've got a whole-
R: Alright, what's this, terrain command center.
P: Lovely, I just found a huge mineral resource pile here.
R: I got a big mineral field, but I haven't, uh, there's another resource. There's the gas we need to collect.
R: Whoa, what was that?
P: Alright
P: Good
R: Alright, terrain supply depot, got to get some
P: Cool, yeah, I'm producing some more marines
R: Doing the same
P: Excellent, excellent
R: Alright, my guys, they weren't gathering, but they're gathering now
P: Good
R: How many, uh, SCVs do you have?
P: How many of the SCVs?
R: Yeah
P: Uh, I don't know. I'd probably say around 10.
R: Okay, 10 really?
P: Alright
R: I only have 5, I'm going to create some more.
P: Alright, bite me. Sorry, I don't think I'm supposed to say that on this.
R: I'm sure it's legal.
P: Well, you know, whether they like it or not, they got it. Alright, I'm going to try to move...I'm going to try, I can't do it like this, can I? Get over here, just produce, go.
R: My guys are locked in here by some terrain.
P: Are ya?
R: Well, just to the north, we're walking around up there.
P: Get over here.
R: I'm moving them up toward you. Haven't seen anything, uh, got some good protection walls.
P: Yeah, neither have I...Go collect minerals. Alright. I think it's time to go send out a little recon team.
R: I got some more crystals.
P: Do ya? Good.

R: [] working here though. Let's build
 P: [] do it, do it. Alright.
 R: I'm building a factory
 P: Good, good, alright. I just sent, I'm sending a recon team south.
 Coming across some, uh, structures down here.
 R: yeah, I'm pretty close to that area. I'll join you.
 P: Alright, I've got some water.
 R: oh, is that what that is?
 P: yeah that's that. Do you see my little green guys?
 R: yeah, I see them.
 P: in fact it looks like I'm headed your way.
 R: yeah, I think probably we want to head north.
 P: alright
 R: or to your right, up to the upper right corner.
 P: alright, yep, there's a gas source right there near you.
 R: oh, there is?
 P: right, see where I'm at right now, my little two recon guys? Just-
 R: okay
 P: just north-
 R: oh, right. Do you want to set up a, a, um, a supply depot, and get
 some SCVs working on that, or do you want me to work over there?
 P: um, why don't you grab, well that's over on your end isn't it? Well?
 It's kind of in-between, uh, tell you what, I'll go ahead and send
 someone down there and start building. Well, let's see, how are []
 doing here? Vespene gas, 5000. You know we may just want to keep
 that one in check for a while-
 R: okay
 P: and not worry about it.
 R: I'm going to, uh, send some forces up to that upper right corner, to
 get ready to, uh
 P: alright
 R: cause I imagine that's, it seems pretty peaceful down in the, so I
 think it's the upper right corner where we're going to see some
 P: that's what I'm thinking
 R: so I won't do anything. Our resources all look pretty good on my
 side
 P: alright, that's good
 R: and the, uh
 P: [] my gas guys, crap. Alright, oh good, I just found another gas
 source over here near me and another, oh excellent, another mine
 field
 R: oh is that up there by you?
 P: just by me, it's huge, do you see it?
 R: yeah, I see it
 P: good, good, good, good, good, excellent. That is a good spot for
 another command center. That's what I'm thinking. Not to mention,
 excellent, excellent spot. Excellent spot. I've got a building here
 too just south of the, uh, of the mine
 R: a building?
 P: of the mine field, so I'm going to make that one of my perimeter
 spots.
 R: okay, I see what you're saying.
 P: ah, come on guys, give me some more minerals. Crap.
 R: now where where do they take the supplies to? Are they taking them
 to the command center?
 P: they take them to the command center, that's correct

R: so if we want to collect something that's far away, they're going to have to drive all the way back to the command center?

P: exactly, unless you build one near it. That's why you want to try to locate one near a gas and a, near a gas and a mine field, if you can.

R: right

P: those are key, those are key, excellent, excellent, come on guys, build me some more. Alright, I've set up a little bunker just north of that structure, south of the mine up at the top of the screen.

R: okay

P: okay, and I'm getting ready to build another, uh, command center up here just start harvesting this area. Once I, there we go baby, yeah! Come to papa. Alright. I'm going to send these guys up here, I've got a feeling, I've got a feeling you're right that these guys are up here somewhere. And uh, you paused the game?

A: yeah, I paused the game. Stop recording//start recording, I'm going to start the game

R: I'm screen zero zero.

P: so am I

A: yeah, okay then [] thank you

P: so you're good

A: mm hmm

P: okay

R: now, one thing that I was thinking is that lower left corner

P: yeah

R: we didn't fully, uh-

P: explore-

R: explore that, so I'm sending one person down right now

P: okay, what I'm going to start doing is, from that camp that I have up north

R: right

P: I'm going to start expanding down south so we can set up a perimeter when we, uh, join up together

R: okay

P: okay, I see, your, uh, position there, south and to the east. Um, what you can do is, once I meet up with you, we can set up a uh solid line and probably have that whole side of the screen to ourselves

R: oh, wait, wait, I found the enemy here

P: have you?

R: yeah he just uh, whoa

P: alright

R: the enemy's now in the lower left, he's not in the upper right

P: oh, I see

R: so that's uh

P: okay

R: I mean that's good

P: well what I'm going to do is, I'm going to send a recon station out to the upper right just to clear that out then

R: okay, that's good

P: alright

R: yep

P: so why don't you go ahead and start making a, a perimeter down there

R: okay

P: around your area, and I'll do the same on mine

R: um, what happens when the, it looks like arrows go in? Does that mean they completed a building or, that's what it is.

P: when arrows go in?

R: yeah, it's just an indication that terrain has been completed I think. I didn't, uh

P: okay, I'm not sure

R: when you have green arrows kind of focus in on

A: yes, that's what it, it's completed something.

P: okay

R: oh, wait a second, they moved in here quick here

P: alright, so they're down on you?

R: yeah, I'm uh

P: alright

R: yeah, we're going to have to, uh

P: you getting beat up?

R: what's that? No, I'm under attack down here, but I'm, I'm going to pull back and...I can hold my own down here, I think

P: alright, right now it looks like the upper right corner is clear. I see nothing

R: alright, I'm going to have to uh. Yep, they got me again under attack

P: alright...yeah, you can count the uh upper right as clear

R: alright

P: alright?

R: yeah

P: okay

R: I'm running seriously low on gas here, alright, and I don't think there's going to be, have we started mining gas yet?

P: yeah, I've got gas being mined up here. I'm not sure if our resources are being pooled together in one spot.

A: [explaining to read that gas goes to refinery]

R: oh, really

A: yeah, yeah I gave you guys a refinery

P: yeah, oh, okay, I'm sorry. Now Amy, an upgrade that I make is good for him as well, correct?

A: no

P: okay

A: and the resources are not pooled

P: they're not pooled, very well, thank you

R: okay

P: okay, I'm sorry about that, yeah, you need to send folks to the refinery, uh, you'll see another factory type building there-

R: right-

P: in the group that looks like a little, uh, wizard's house - Terran academy - you can do upgrades to your shells and such there. Uh, so when you have enough, uh you can start upgrading your weaponry.

R: uh, he just installed a, uh, missile

P: oh did he? Alright, alright, that's fine. We can tangle with that. We can take two. I'm clearing out all the area to the, to the uh, northeast. Uh, walking in my guys towards you, and, uh, trying to set up an overall line out there. So, my guys are moving

R: I don't know if, I need to maybe create something that's a little stronger here

P: alright, let's see if I can send one of these bozos down there with you. [] me, alright, I just came across, come on, kick his butt, what was over there alright, oh, son of a b----, they've got tanks, alright

R: they have tanks, or?

P: yeah, they've got tanks set up just uh, just north of that mine field that is, uh, that small mine field that we found earlier

R: okay

P: you know what I'm talking about?

R: right

P: yeah, they've got some tanks out there, uh, and these are some beasts of a tank, when they hunker down, their power is much greater

R: okay

P: uh, so what I'm going to do is, uh, first of all I'm going to build a, uh, I'm going to build a bunker here in the middle of nowhere, and I'm going to mass my forces to, to go after them. Alright, building a bunker there, I've got my guys here, okay. Now we need to pick on these bozos a little more. Okay, how you doing over there?

R: Um, they seem to be leaving me alone, so I'm just trying to gain more power and sit in my little corner here

P: alright, I'm building a little engineering base, so we can get some upgrades here. Uh, that's right, you want to go building engineering plants and such

R: okay, well I've got the academy and I'm upgrading that way, and I'm also building a machine shop so I can, uh,

P: Alright, alright, they've got a good set up down here. They just took me out, alright. They just took me out well, too.

R: huh

P: So, it's alright, we'll get 'em, we'll get 'em.

R: yeah, I'm

P: [] finished up there, excellent. Uh, let's build, I have an academy there don't I though, alright, engineering bay

R: now what do you think I should go for some siege tanks to, uh, defend myself here? Is that a?

P: can you build those?

R: yeah-

P: do those-

R: I'm all ready to build them-

P: yeah, build those puppies.

R: alright, I got four being built right now.

P: good

R: and I've got plenty of vesperous gas.

P: okay

R: and we're, uh, we're cooking, we're cooking now

P: tanks, what am I missing? [unintel build unintel else] bastard I need a factory, get over here

R: oop!

P: oh you

R: laughs

A: turn off your monitors [recorded through part of break] stop recording//start recording

R: alt print screen 01

P: same here. Okay, we're off, okay

P: now you know you can build bunkers, right?

R: um, how is that?

P: you can build bunkers using your, uh, ESV's, your small guys. Uh, and that will give some protection. You can put four, four of your troops within each of the bunkers. Uh, and that will, you know and they'll sit, and they'll be protected as the enemy units are attacking them, and they can just fire at will at them, uh

R: and how do you build bunkers again?

P: uh, it's your ESV's, you use, uh, it's one of the basic structures or the CSV's, the SCV's, I'm sorry

R: okay

P: alright?

R: got it

P: 'okay, see how are you doing down here? You got those tanks, beautiful. The best way to use your tanks-

R: yeah?

P: is to hunker down, you'll have a button that will allow them to [post? Boost?] themselves and, uh, that will give them a much more powerful attack when something gets in their field

R: the hold position?

P: the hold, no, not the hold, but it's, actually it may be the hold, I don't remember right now [unintelligible red and purple talking at same time]

R: yeah?

P: if you press it, you'll see they'll have some arms that will come down and grasp the ground, uh, and they won't be mobile anymore until you remove those, that feature, uh, but they'll be much more powerful when they attack-

R: I don't have that feature-

P: much more powerful

R: I've got move, stop, attack, patrol, hold position

P: do hold position then, that'll probably do it

R: it's, it's, it's not, the graphic isn't changing on it, but-

P: alright...alright

R: what's a, what's a stim pack?

P: what's a what?

R: a stim pack. On one of the marines it says, "Use stim pack"

P: uh, you know, I've never used that-

R: oh-

P: so I couldn't tell ya, sorry. Okay, I've got a series of bunkers built to the north of uh, that upper compound that they've got going

R: okay

P: uh, alright, I'm sending these guys down here, okay, [] let's build. Got a barracks right there, alright. I'm going to have to come in here and start kicking some ass. Thank you. Oh, shush. I like they made the voice a nice, calm voice

R: what's that?

P: the voice for, uh, for the woman who speaks to you - the computer

R: oh...alright, now I need more []...alright

P: Okay...alright, let's see if I, alright I'm building an offensive up here for that compound, uh, with a whole bunch of marines

R: I'm sorry, say that again

P: I am building up an offensive up here just north of that, uh, of that area that they're at

R: okay, I see where you're at

P: um, you can probably see my guys amassing over there

R: right, we got four minutes and 20 seconds left, so what we'll do is, when you're ready, um, we'll just, we'll just start in, you know, make sure everyone's occupied and

P: Okay you got, uh, guys amassed over there?

R: well, I, I, I got some tanks and you know

P: okay, that's good

R: I mean I wouldn't call it a mass but, uh,

P: good, something I will, something that I'm going to start doing, I've got two bunkers set up here-

R: right
P: with a whole bunch of guys behind, I'm going to start sending platoons or small guys down to retreat these guys, you know, to lure these guys this way
R: oh, right
P: and then what they do is, uh,
R: that's a good plan, they seem really aggressive too, if you, uh, I just increased the capability of my, uh, tanks as well
P: alright, good. Oh, bastards, okay they've got air folks here
R: siege, oh siege mode, alright I got it now
P: okay, we've got air folks here
R: oh, there you go, oh, they're wasted now
P: yeah, I'm getting my-
R: I, uh, alright two minutes and 42 seconds, you ready? I'm heading in
P: go for it
R: they got me, they say I'm under attack, but I'm in siege mode with these guys, so
P: okay, I'm getting my ass spanked by their, by their air forces
R: alright, we'll be okay. Ooh, wow, they're tearing me down pretty good
P: yeah, ditto. Ditto, they're just having a field day here. Alright
R: we'll be okay, we got two minutes left. Wow, that, whatever that was, that went through my tanks like they were nothing
P: yep. Okay, I just got stomped back here
R: alright, we're, I'm doing okay here but
P: Unpleasantly stomped
R: I got to, uh, alright guys, we're gathering minerals here. He's attacking a bunker, unload, un- oops. Where's the, uh, I don't know what's shooting at me
P: it's in the air
R: what do you mean it's in the air?
P: they have some aircraft up in the air, and you can't see it unless you have, uh, you can't see it unless you have some turrets, or unless they're seen
R: turrets?
P: they've got, uh, they have a way of disappearing, and they are spanking my ass
R: alright, we're doing good, we're doing good, all we gotta do is-
P: so, okay, good, good, good, good, good. Good, good, good, alright, I'm regrouping over here
R: []
P: build some turrets, okay
R: they tried to spank me, but you only got nineteen seconds
P: it is
R: I think we're doing good. Wow, what is that?
P: yeah, okay
R: now they've got my base under attack, oh, time out
P: yep, thank God
R: whew

Group 1 Trial 2

A: okay, starting recording

P: roger

R: pressing okay

P: check out this map [] let's go baby, alright I'm up in the, uh, left side of the screen just above halfway up

R: I'm right side of the screen just below halfway down

P: okay, I'm going to go ahead and, uh, scout out the left side

R: well you know something I was thinking is we may want to go more slowly 'cause if our goal is only to survive then we probably don't want to, we don't want to make contact. So, the last game they had more points than us because they had more structures, more resources, and more units. So, why don't for this game, we just, what's in our nearest vicinity, we just try to explode. I mean we can explore terrain but at the same time make sure we're increasing, I mean

P: our posture

R: well, we, we could, we could achieve one goal in that we could make a lot of troops, a lot of resources by just using what's right here and not explore any terrain. But part of it is exploring terrain at the same time so it kind of, uh

P: well, I, I, I'm with you. Uh, we need, we need to hunker down and build up our, uh, our technology 'cause that's one of the biggest things that killed us the last game was, uh, he built his technology while we just kind of scattered around and built up our resources. Uh, but I also think we need to, 'cause we're going to need to find more resources and that's by doing some small scouting

R: but I didn't, I didn't empty my refinery or empty the gold fields near me

P: true

R: or

P: alright

R: alright, well let's, uh, let's just go slow, let's not overextend our bound in terms of our terrain searching

P: roger

R: are you shooting over there? Or is that just sound effects?

P: uh, sounds like somebody was met, I wasn't shooting, I don't think I am

R: okay

P: uh, right now I've, I'm on a plateau it looks like. Oh no, I'm, I'm facing a plateau over here on the left side, and I've identified one other mine field and one other gas field right now and I'm going to stay right there for now 'til I accumulate the rest. Uh

R: alright, so my, my academy is upgrading

P: good

R: and the barracks, you need to build a bunker from the

P: you have a bunker, oh I'm sorry, you have a barracks. I'm building an engineering bay right now

R: where do you build an engineering bay from? Oh, from the command center? Oh no right it's the guys who can build it, alright I got it

P: right, since you have a command center, you can build an engineering bay

R: oh, so I need a factory

P: right

R: and collect enough minerals, so where are they, here we go and now I can build it. Alright, so building a factory

P: alright
R: collecting minerals
P: there you go
R: going to do a little exploring. So I think we're going to be safe to say that below me and above you is going to be a safe area to explore
P: I would tend to agree
R: so let's, you, you search above, and I'll search below, that way we'll have a little terrain that we can draw on our map when she asks us to
P: [laughing]
R: and then, uh, and then we won't be making contact 'cause once we make contact those little buggers
P: as long as you make contact far away and don't run back home, they're not going to follow you. So you pretty much just make a small unit that's expendable and just let them die when they find them. Uh, that way they won't follow you back. Know what I mean?
R: I hear ya. So I found a good resource to the south. Now what is it that allowed us to see each other? Because I was able to, uh, to see you for the last game, but I can't see you now
A: yeah, that's one of the variables
R/P: ah
P: very nice, very nice
R: so that kind of hides the little of what's going on here
P: okay
R: job is finished eh
P: excellent, I'm working on a factory right now. Uh, I think we're doing alright so far
R: alright, I've got an armory, and a factory done and I've researched something at the stem pick tack alright, I don't need to research that anymore.
P: alright, alright, this is interesting, we've got. When is my job finished, there you are, good. Okay, I've got a couple of supply depots set up over here, uh I'm about almost complete with my factory
R: you know that's a good thing, I need to, um
P: and I've just finished my factory, that's excellent
R: yeah, I've got the factory going, the armory going
P: alright
R: I need a, uh,
P: alright, alright, no more minerals, fine. We'll get you some more minerals. Okay, I'm on the upper left corner, and I'm clear
R: yeah, I went all the way down to the lower right, and I was clear
P: okay. So you're down at the lower right. I'm sending a team clear across the top, uh, north just on their own suicide mission. Alright, and, uh, I'm building my first tank right now
R: oh really
P: yeah. Okay. I'm under attack at the upper, at the north middle area
R: really
P: yeah
R: did you-
P: and they have a barracks, they have a center and a refinery going up there with a couple supply depots. Just, uh, just to the east of north, just to the east of the middle up on the northern end. Okay? So we know they're up in that area. Uh, it didn't look like they had spread out much.
R: okay

P: so. And I'm almost done with my first tank, yippee. And I got a tank. Well done. Oh, alright, that's what the thing is. Where's my machine shop, do I have a machine shop? That's right, in order to get that, uh, siege tank capability

R: right

P: you need to research it at the machine shop that you build adjacent to your factory. It needs to be researched, but once you research it, it's beautiful, uh, 'cause it'll just hunker down and blast the hell out of anything that gets near

R: the, the what? For the missile?

P: uh, for the tank

R: okay

P: it's for, it's the siege tank capability where it'll hunker down

R: oh, right, right, right, I got that at the end of the last one

P: okay

R: now I have all my guys out patrolling, and I actually don't like what they're doing here

P: I'm gonna

R: so I think I, I've got some nice cliffs as a nice natural barrier

P: okay

R: to my kind of in the middle and so I don't think

P: alright

R: alright, so I just finished my, uh,

P: infantry armor, okay I've got my first vulture built. That's a little motorcycle type deal

R: yeah, alright I got goliath capability. You building tanks?

P: excellent, I'm building tanks

R: I'll build goliaths

P: that's a good idea. You, you work on it

R: not enough minerals. I'm building goliaths [unintelligible, both red and purple talking at same time]

P: my freaking God

R: what - he after you?

P: I just got attacked and they're coming out [laughs] get your buttocks over here

R: do you need me - do you need help over there?

P: uh, yeah they've got a good amount of folks coming up here...come on guys, I need your help...yep, they're taking care of my uh-

R: oops pause

A: stop recording//starting recording

P: alright, I'm being attacked from the northeast

R: alright

A: [reminds them to do screen captures]

P: alright screen 03

A: okay

P: okay, the attack has ceased, uh, my factory is a little bit

R: they came in to your uh

P: yeah, my factory is a little bit in flames, uh, but I'm coming over to fix it right now

R: alright I got a goliath on line

P: alright yesirree bob, yesirree bob, alright

R: I found some viper vapor down below, but I still got 3000 so I'm not going to work on it

P: okay

R: [unintelligible, something about weapons creating]

P: yeah, I've got, uh, I see I have water down on the south end of the map

R: okay

P: there's a plateau to the south left corner, south west corner, probably where Amy's sitting at, uh, and there's a gas vapor area right there in fact with two different gas vents, uh, which we'll probably never use. Uh, and I have also a plateau area about six inches to the right of the left end of the screen with a ramp up leading to it

R: I'm sorry say that again

P: I have another large plateau area

R: okay

P: on the left end of the screen six inches from the left side of the screen with a ramp area that'll go up into it, uh

R: so do you think the enemy's in the upper right or is he

P: the enemy is in the north end of the screen just west, er, just east of the north end. You follow me?

R: just east of the north end, okay, so

P: sorry

R: upper right?

P: upper right just east of the center of the north

R: okay

P: okay, just northeast of north. Okay. Alright, I've got my viper over here...Okay, I'm building an airport as well...okay that plateau that was at the southwestern side?

R: I'm under attack now here, hold on

P: are you? Okay

R: he's really, he's really laying in here

P: is he? Alright, do you need me to come

R: no, no, no, I'm good, I just

P: alright

R: I got some goliaths being built [] stargate

P: okay, I've got my starport is created, um

R: he - whoa. He practically wiped out my forces, that's why he stopped, uh

P: attacking? Alright

R: whoa - base is under attack, well let's. Wow, he's laying into me good here.

P: is he?

R: he's got tanks going into the, uh, siege mode. Well, I'm just going to stick with goliaths.

P: okay

R: thought I built a starport too but I don't know where that thing is.

P: well I'm building my first wraith which is the, uh, the aircraft. Uh, okay, how you doing over there?

R: um, I'm upgrading my armory.

P: okay

R: so my guys are upgraded. I'm on the infantry weapons. He just came at me like. Comsat station what's that? Don't need that, wow.

P: comsat, oh I forget what that is.

R: hold position, hold position, wow, one shot! That guy is just wiping me out there.

P: what the tank?

R: yeah

P: okay we've got some water, and I've got a building in the center of the screen, and my forces are now under attack from the bastards. Alright, you go baby, uh, my vulture, I've got a pair of vultures that I'm going to send out and start playing around, ooh, and I have a wraith, excellent. You go, baby. Um, so you said you're in the

R: well, I'm just going to start doing throwing down some uh
P: okay, well if he's attacking you...okay. Let's see. Okay, I'm coming down
R: wow.
P: []
R: I'm seriously hurting over here
P: alright. See where you're at. Okay, is that you I see?
R: he's completely blowing me away here.
P: got it.
R: are you purple? Oh yeah, you're coming to the rescue.
P: yeah, I'm purple.
R: yeah that's good.
P: I don't know if these guys will help you much.
R: to the south of you he's got a tank down there and. Just yeah, come south.
P: just to the south?
R: come down low.
P: alright
R: yeah
P: see if these guys are gonna
R: and there's one right below you to the left, he's attacking my, uh
P: alright, yeah well I need to see if I can knock this tank out he's gonna, yeah that's what I thought, sorry.
R: oh no, that's, that's fine.
P: alright
R: yeah I know my forces are under attack there little darlin'.
P: you still being attacked?
R: oh yeah
P: alright
R: oop, he just blew up my, uh, command structure. That's not good.
P: alright, well, I've got two wraiths on him, uh,
R: oh yeah, that's good keep him busy up there
P: they're gonna knock him down little by little, in fact, they're almost done with him, there we go. Where next?
R: anywhere. I mean, I don't have the capability, oh I guess I still got my barracks.
P: alright
R: so my guys can't even uh, so we need to build a command post.
P: okay
R: not enough minerals?
P: how you doing? Are you not under attack anymore?
R: um
P: cause I think I wiped him out.
R: yeah, no wait, there's still some to the south there. One guy
P: alright
R: one, but I can take care of him.
P: okay, oh I hear him.
R: yeah, there might be something, oops they just took out that thing whatever it was.
P: come on babies.
R: []
P: alright, you got some more f----- coming, sorry. Uh, I've got two vultures there in your area.
R: what my problem is now, I can't build a, uh, command structure.
P: you can't?
R: cause I don't have enough, uh
P: minerals?

R: minerals
P: alright, do you have any more SCV's?
R: SCV's? Yeah, I've got two of them but they won't, they can't gather because they don't have a command structure, and they can't build a command structure 'cause they don't have a, uh,
P: alright, there's no command center right now?
R: no
A: stop recording//now recording
P: alright, so you have no command center right now?
R: yeah, I, uh, and there's, there's nothing I can do.
P: Amy, if I build a command center over there, can he use it?
A: I don't think so
P: alright, d*** it. You don't think so, alright...okay, I'm sending you-
R: whoa, hold on, he doesn't seem to be attacking anymore, so you work on self-preservation and I should be able to hold out here for 10 minutes.
P: okay, well I'm pre-positioning some tanks and, uh, and some forces
R: nope, now he's on me.
P: alright
R: he's down, down south
P: very well...alright.
R: alright, I'm doing okay. I'm holding my own here.
P: alright, alright.
R: and I've got enough for two more army guys so you just build yourself up nice and pretty there.
P: [laughing] I will, I don't know if I can pretty though, I'm kind of ugly right now. [] my mother finds me pretty. Alright. Get some more minerals, d*** it. That's an unacceptable answer. Alright, let's go, give me them, alright. Excellent. How you doing over there?
R: I'm okay, I mean I'm not okay, I've got
P: alright, you're gonna have a contingency that's going to be sitting over there right now.
R: alright, I mean is he up on the plateau, or is he coming south, oh, okay
P: he's coming south, he's coming south from up there.
R: alright
P: alright
R: even, just, just put them in their hold position and-
P: here they come.
R: and then just go for it. Do your self-preservation.
P: alright
R: just right there, hold them right there. Just put a hold position on
P: roger that
R: and if I get under attack, I'll let you know when you can come back and reposition them
P: alright, well I'm gonna-
R: well actually, take one of your tanks and pull it down, pull it down further south.
P: you want it further south?
R: yeah, I have an armory that's on fire
P: alright
R: actually
P: can you build any more guys with that armory?
R: nah, I can't build anything else
P: alright

R: but just protect those two - no, come down south, come down south
P: they're coming from the north so they're not going to be down there in the south and you can get through all my guys that are up there
R: alright, no you're good, I'll come up there and help your guys
P: they're doing fine right now where they're at, and I think that's going to be the best position to support you from.
R: okay
P: um,
R: just go, just go and take care of yourself. Don't worry about me.
P: alright, alright
R: don't worry about me
P: come on baby. Alright
R: Alright, you go ahead on over there
P: yep
R: alright, now go gather resources, explore the terrain
P: roger that, these guys are doing fine where they're at. Come on guys, talk to me baby. Alright, not enough minerals. You keep doing that to me. Alright. I need, another one of those vultures, I've got five minutes left, huh, alright. Alright, I see they came down and tried to attack again.
R: no, I'm trying to draw them away.
P: alright, that's fine. Okay...Alright, I see these guys are continuing to try to come down to you and attack you.
R: worry about yourself.
P: I am.
R: I've got enough people there to last for
P: alright, we're going to do a little [hop?] hit and run
R: now I'm just kind of drawing them away from me.
P: alright. Do a little recon on these guys, see how they're doing, they still haven't spread out much. Alright, come on baby. Okay, they've been building up a little, little by little there. Um, see if I start drawing these guys in to where I'm at and take them out little by little. Um, there is a square type structure uh north of center of the board uh and my guys are just to the northwest of that uh amassing there. And, I'm going to move my guys which are on your side of the board up a bit.
R: okay, that's fine.
P: 'cause I'm going to start moving towards an offensive with three minutes left
R: now, do you think I'll die if I lose all my guys?
P: uh, you probably, well you won't have any more guys left, so I would assume you would be dead
A: yeah, I think you do
R: I was going to send my last guy out to draw away, to draw people away so
P: just hold yourself there, you're doing fine. These guys are walking right by you man, shoot 'em. Bastards.
R: oh no that was me
P: oh that was you, I'm sorry
R: oh no problem, no problem. Don't mean to turn your whole force around.
P: it's quite alright. It's quite alright and I've got these guys got a tank coming down, and I'm hunkering down right now. I know they are thank you. Alright, well I'm gonna, I've got forces now to do an offensive here.
R: alright
P: uh

A: are you still alive Erik?
R: yeah
A: okay
R: I just don't have a command center in which to build more people or collect resources.
A: oh, okay I see your person. There's one in the game.
P: alright. Okay. And I'm going to begin my offensive now.
R: alright, just describe it to me because I can't see.
P: okay, I've got my first airship coming in, and they're being responded to by their airships, the bastard. And my tanks are now rolling in.
R: my barracks are on the move too. I don't know why, just felt like something
P: it's okay, my men are coming []. I sieged down my tanks. Alright, their tanks just wasted my tanks. Okay, is that you that's flying your-
R: yeah, that's my factory, we're flying. Ooh, I'm under attack down here.
P: I think that was-
R: Don't worry about me, we've got 34 seconds, we just gotta
P: by accident, that was me. All my forces are dead
R: really
P: yeah, he'd amassed quite a bit, he's got a virtual little empire up here. Uh, with tanks, a ton of supply depots, an airstrip, barracks, uh, and my forces are under attack now
R: he killed my last guy
P: yep, he just got me
A: [asking for screen capture]
R: alt print screen, base under attack
P: screen 05
R: good thing it wasn't longer than thirty minutes
A: stop recording

Group 1 Trial 3

A: now recording
R: pressing okay
P: go for it...okay, I'm in the lower left corner.
R: lower left?
P: yeah
R: I'm in upper left.
P: okay. There are my resources. Okay, I have a resource pile just to my east
R: alright
P: okay
R: alright, again I think we should, uh, work on terrain exploration and just stay away from the enemy. You know, unless he's attacking us, I don't think we should go after him. 'Cause you saw what happened the last time you went after him.
P: Yeah, I agree. I would say we should just do a little nearby exploring until we build up our assets a little bit more and then we can start going out a little, we can start venturing out a little bit more.
R: right
P: so, right now I'm just in acquire mode of my resources. So you're in the upper left?
R: yep
P: good. Okay, I have I'm bounded to the east by water.
R: to the east by water?
P: yeah, okay, it starts just east of me and moves the shoreline moves northeast in a northeasterly direction from me. I'm not venturing out too far, uh just about halfway across the bottom of the screen is where I'm at, and that's where I'm staying for now.
R: alright
P: I'm building an engineering bay right now.
R: alright...I got to build another supply depot I got enough
P: yeah those'll creep up on you pretty quickly.
R: yeah
P: um, what's terrain look like around your area?
R: um, I don't know.
P: [laughs]
R: I'm pretty uh you're lower left alright so I'm gonna
P: right. Okay, I have what looks more like an ocean. That water that I'm talking about looks more like an ocean than a river and it slowly curves up north um for about a quarter of the way up the screen and then it starts moving back in a northwesterly direction. Okay?
R: alright, um
P: so I'm almost, I'm protected by water on this side, only air assets can get to me right now from the east.
R: from the east?
P: from the east I'm protected by water.
R: alright.
P: down here. I only have land connection to the north so I'm moving my forces northerly just a tad, uh, to that bottleneck area that's about one third of the way up the screen toward your way. Okay...And I've built, okay, my engineering bay's complete, I'm building another supply depot. Bastards. I hear ya. Okay, about a third of the way up the screen is another vesper gas geyser.
R: alright, and I got one right next to me too.

P: okay

R: don't go any further 'cause you're the one who always makes contact. You're over ambitious.

P: uh, right now, like I said I'm up, the furthest I'm at right now is one third of the way up the screen.

R: one third up? Well I don't think there's anything between you and me 'cause we're both on the left side going right.

P: agree

R: alright

P: I totally agree, I've just come up to this bottleneck area that is approx. one third of the way up and I can see land on the other side. There's a structure just off on the other side. So.

R: I'm going to go ahead and build a missile turret

P: that's a good idea...I, I'm going to do the same on this side of the water to keep an eye out for any flying intruders.

R: and I guess I should probably build a uh

P: excellent, excellent.

R: alright, I've got battle tanks with siege capability so I'm gonna

P: good, you keep up on that, I'll not go after the battle tanks, I'll work on aircraft-

R: yeah

P: once I get that going. Oh, shush. Okay, I've got two turrets up and running.

R: yeah, I've got two almost up.

P: just to keep an eye out for the area there right now. Okay, good so far, that's interesting. Alright. Um, I just noticed there's a plateau area.

R: yeah, I've got a fort up north here.

P: alright

R: I don't know what exactly it is, but uh

P: yeah, I have a bottleneck between the water and a plateau area and the plateau area has a ramp going up from where I'm at, uh, so my forces are staying just behind that bottleneck and that's where I'm going to keep them

R: alright

P: until I build up a little bit more here. My engineering bay is almost complete. [unintell] engineering bay. Oh no, he's just upgrading that's what he's doing. Alright, what other structure do I not have? I need, I need a factory, I'm building a factory now. Alright, go. Alright, it's going slow, I need to produce some more of these SCV's. So how's the terrain looking over there?

R: um, I'm not exploring too much, I'm more uh

P: okay, but your immediate area.

R: but my immediate area, I've got some it looks like some rocks, I'm slowly pushing out but not too much.

P: okay

R: it looks like I've got some rocks and I've got some natural barriers and I've uh...I'm just kinda

P: I understand.

R: there's a there's some cliffs up north, but I think we're all set. I've got a lot of cliffs like right down the middle of the screen

P: okay. Going into water?

R: no, well, I don't know, I don't know what's on the other side. I see a ramp here so I'm just going to hold my guys here on the ramp.

P: that's a plateau you've got there.

R: yeah

P: you said down the middle of the screen to the east side?

R: yeah right down the middle of the screen.
 P: fuckers I'm being attacked from the north.
 R: from the north?
 P: they're somewhere between us, yeah.
 R: ooh, pause
 A: turn off your monitors, stop recording//starting to record
 P: roger
 A: resuming the game
 P: okay, I've got 06 print screen
 R: 06 as well
 P: well, alright, yeah, my small army that I had amassed to the north just got wiped
 R: your army to the north, really?
 P: my small army, yeah, I had about 5 guys
 R: to the north? As like mid-north or
 P: a third of the way up north, a third of the way up north is all it was
 R: really
 P: yeah, they have a couple flame throwers. And uh my guys are coming slowly to the rescue, but they're coming. Alright I've got this under control...Oh my god those flame thrower puppies are killing me...Where'd you guys go, alright there they are, bastards. My problem is I've got two of the guys here, they're two of the enemy which are ganging up on me.
 R: do you need any help or are you okay?
 P: um, I'm fine I just have to build up more than two guys because the two, uh, these are two firebats and combined they can knock out one guy like in a split second. So I have to slowly. Alright there I just knocked him out, uh, but he hurt me a bit...yep, he sure hurt me a bit. Okay I'm building an airport right now, I just started mod one. It's time to start building up my guys, but they came from the north. Um, I saw them a third of the way up, and I just see a couple more guys coming now.
 R: really, oh wait I'm under attack here.
 P: okay, yeah he's somewhere between us bastard. I'm holding a bunker here at the uh at the bottleneck. How big are the forces that are attacking you?
 R: well, I was able to wipe them out but I don't think, uh.
 P: it's just a small scouting group alright.
 R: now he wiped me out up in the corner there.
 P: alright. Somewhere there, and he didn't come from the plateau so he's up there.
 R: um
 P: Thank you, job's finished, alright, I need you to go build some more supply depots. Alright
 R: Wow he just wiped me out there.
 P: yeah he's good at doing that isn't he? Alright
 R: whoa, my God.
 P: what happened?
 R: nah, he, they're just all over me.
 P: are they? I don't have the force to be able to get to you, man, sorry.
 R: no, that's okay, you're, you're, you're fine.
 P: so, I'm just building my guys up. Just hang in there.
 R: Wow.
 P: that bad, huh?
 R: he just took out something there.

P: bastard, bastard, bastard
R: he's strong today, he's strong today.
P: yeah, it's amazing how, uh, how he can muster his resources and just start building up. Yeah, he took out a number of my supply depots. Alright. Alright...My bubbas are mining minerals like you wouldn't believe and it's still not fast enough.
R: yeah, I had to diverge too.
P: at the bottleneck I've created, uh, two bunkers and one, uh, missile turret. Uh, so that should be able to hold them off there on my end. And I've got an army of, uh, a small platoon I guess of, uh, of guys that I've got on hold just behind the bunkers so they should be okay there. Uh, I'm going to start building a few aircraft, a few wraiths. And a supply depot...What else do I need, a starport, alright.
R: alright
P: good, I've got a couple firebats...Okay. I think I've got a pretty good, uh, perimeter partitioned off up here. Should be able to fend off any attack from the north right now. Uh, long as it's medium to minor. Alright, good, good, good, good, good. Okay, excellent...Alright...Alright, good, good, good, good, good. Alright. Alright, I've got two, uh, two wraiths, uh, and I'm getting ready to build a third one now.
R: I'm sorry, say that again, you're building what?
P: I've got two wraiths built.
R: wraiths?
P: wraiths
R: oh right right
P: that's the aircraft, uh, and I'm start moving a little bit up north try to get an idea of where this guys at. Uh, let's see I'm up on the plateau, that's to my left, that's to the west. There's a small building just, uh, uh directly due west in the middle of the western border
R: okay
P: on the plateau
R: um, yeah, I've got to switch my focus to resources 'cause I'm just, I fell low on that last uh
P: alright, that's fine, I've got my guys flying. And, uh, I should be seeing you sometime soon.
R: yep
P: uh, I see a mineral resource, uh, you're not around it, so it's to your south.
R: right, well I'm just a little further north there, there you are, you popped up.
P: alright, I've got ya. Oh good, I see you've got some aircraft
R: yeah, I'm just hanging out here.
P: alright, let's see, I see your building over there, okay, I see where we at, where we at. Oh f*****, alright, got 'em. I see his base. His base is essentially right in the middle of the field.
A: no, that's me.
P: that's you? You shot me. Thank you.
A: no, we're not allies, but
P: alright, I found Amy, and she's shooting at me.
A: sorry
P: that's alright, you didn't know. Alright, so they're not, the enemy forces are not in the middle of the field, so that must have been a scouting party that came out somehow

R: yeah, well [unintel] I think they're in the upper right. There's a ramp and I think they just barreled down there.

P: alright

R: Oh pause

A: stop recording//now recording

P: screen 07 and I have lost a lot of lighting here 'cause I'm in an area that I don't know. How about that? Alright, my guys are, uh, just east of the north, just east of the middle of the north, uh, side. Uh, and I found a nice, a nice sized mine field. The plateau lines the top north of the screen. Uh, still nothing yet. Okay and I just found a transport. They've got a transport bugger, transport vehicle being created or actually that was created, sorry, and it's an air transport. Alright, do you have a, uh, missile silo set up?

R: missile silo?

P: I'm sorry, an air turret.

R: missile- oh I have one.

P: okay, never mind, I'll let this guy chase me to my forces. Uh, he has air forces set up. There you go, that should take care of him, okay, I just killed him. Um, but yeah he's got a little expeditionary force being set up over there.

R: okay. I'm just trying to gather resources, I'm not trying to

P: that's fine

R: [] much exploration

P: that is fine. No rush...I feel the need for more supply depots. 'Kay come on you guys get over here.

R: alright, I've got two missile turrets going. I'm building a science.

P: you are?

R: yeah

P: okay, I was gonna build one too. Uh

R: well that's fine

P: no that's good, we just need one. Uh, you have an armory?

R: um, yes

P: okay we got it all, alright. Roger.

R: yeah, well I've got all the stuff built but I don't, uh

P: Okay, I've got a couple vipers built. I'm building a squadron of wraiths right now.

R: how much, um, minerals do you have right now?

P: I've got 500 complete right now in reserves. Uh, should have more than plenty to cover the six minutes that we have left. So

R: I'm about to build a battle cruiser.

P: are you? Those are slow.

R: but they're powerful.

P: They're powerful, but they're slow. Um, but that's fine.

R: I don't know, it's just been a goal of mine since I've been a little kid to have a battle cruiser, so.

P: [laughs] hopefully you have Scotty as the captain, that's normally what they've got. Uh, alright, oh yeah, yeah baby! You go. I've got a little squadron of wraiths baby. Those guys are cool. Uh, upgrade ship weapons. I'm upgrading my ship's weapons, uh, and unfortunately I don't have enough vespan gas, d*****.

R: yeah, I'm running into that problem too with my ships.

P: alright

R: all my peeps working. [unintel]

P: what?

R: the uh battleship's just taking a long time to build too,

P: yeah

R: hopefully, that'll be my

P: alright, well, let's see what we got out here.
R: ooh, cloaking field.
P: alright. excellent.
R: everyone's working hard here, it's just
P: okay, yep. I'm gonna go with my little squadron of aircraft over here.
R: alright, and where are you heading?
P: well, I'm headed slightly north of center and what I'm gonna do is I've got six wraiths, and what I'm gonna do is
R: north, north, north right of center?
P: yes
R: to the upper right? Upper right corner?
P: no, directly north of center. I'm gonna be luring, I'm gonna send in one aircraft at a time and lure their aircraft out to meet these guys and I just lured one out. Uh, come on, alright, get back over here. F*****. Alright, there is, the wraiths are, uh, are cloaked, I can't get to them. Uh, they're coming west. There's a small group coming west, they're coming down my way, I'm gonna drag 'em down my way to meet my forces down here. So, uh,
R: and where is this?
P: right now, they're about the center, uh, slightly east of the west border.
R: alright
P: uh, they're coming down the plateau, wait a second, I lost them. I'm not sure where they're at now. I don't see 'em. Uh, there he is, the bastards. He's up, they're moving your way a bit, it looks like. I have a wraith here, they're chasing me now. So I would stand by just in case they come your way. Uh, 'cause I've lost visual on 'em...Alright, I've got some vultures that I'm sending out. Alright!
R: what's that?
P: they're building a bunker. Here I just knocked out their, uh, CS, er their SCV that was building it. Uh, right at the uh north end of the bottleneck.
R: north, whoa, are they whoa
P: yeah
R: I'm getting attacked right there.
P: okay. Alright. Alright, I just took out one of their air bubbas that came after me.
R: oh he's cloaked, is that why I'm having problems?
P: yeah, he's got cloaking going on. Get over here.
R: can a cloak attack a cloaked?
P: uh, I don't know, I don't remember, but I just saw
R: I got him, I got him
P: [] cloaking coming my way. Alright, I just took care of him. Looks like
R: whoa
P: the goliaths can be cloaked too.
R: can they change their enemies so they look like ours? What the heck is that?
P: no
R: whoa, is that their force right there in the middle?
A: no that's me
P: yeah, on the plateau?
R: no kinda
P: alright, we got some cloaked airborne bubbas uh I'm dragging them back towards my area to be shot at. And, uh, I just took them out.

Alright, I've been taking out their airborne guys little by little
as they come after me. Okay
R: Was that the end?
A: yeah
P: that was it

Group 1 Trial 4

A: now recording
R: I am pressing okay...Alright, let's see what's going on here.
P: I predict upper right corner for me - oh, and I'm there. [laughs]
R: and I'm upper left corner.
P: I got you, I see you, excellent. Uh, very cool. I have my mineral resources. I'm setting up my perimeter...Alright. Just to the south of me is a plateau, a plateau area. Uh, I think we should follow the same strategy we were doing last time in the beginning of just hunkering down for a bit first and uh, building up.
R: alright, yeah, I've got water to my south, so I'm in the upper left and I've got water to my south.
P: got ya.
R: and the water kind of ends and it doesn't look like much.
P: okay
R: there's a bridge right there. So there's a bridge and I'm just gonna hold on this bridge with my troops there, expecting you in the upper left will, uh, take care of me.
P: from behind?
R: well, no don't take care of me from behind.
P: [laughs] I am in the Navy. Alright, don't mean to scare ya there...I see this plateau starts off at about a quarter of the way down the east wall comes out due west and then starts turning to the southwest...So [] there...Alright...Excellent.
R: I'm building a factory, engineering bay, barracks. What, is a factory an advanced thing? Factory, ah.
P: yeah...Alright I'm getting an engineering bay going...alright. I'm gonna send a one-man recon out across the north edge
R: oh, do you want to hold off until we get - I mean if you're comfortable, but remember when they start coming, they start coming, they ain't
P: no, I just came out a little bit. One guy came across a plateau that starts down the center of the north wall and goes south in a jagged manner.
R: a jagged manner.
P: yes.
R: alright, alright, what's that...And I'll build my starport here.
P: very well, and my engineering bay is done...Preparing to uh start a factory, just waiting for minerals to build up.
R: alright, I don't know, I'm thinking about maybe not even building any tanks or anything, and just going strictly air force. That seems to work the best for us; our tanks just seem to get wasted
P: yeah, tanks are good, uh, for a very good defensive posture. If you want to do like a little lure or a bait and trap the air force is excellent. They also move quickly which is nice...Alright, baby, talk to me. What's up?
R: oh, I don't know.
[unintel, both talking at same time]
R: well I think, I think we can hold off to the next phase for the exploration, and the last phase maybe for the destruction if we haven't at all the capability.
P: sounds like a good plan, just build up our, uh...Alright, I'm getting ready to build a spaceport
R: yeah, I've got a spaceport with control tower, and we're building wraiths. I'm opting not to go for the um battleship like you said before.

P: I don't really see them being very useful in a game like this.

R: yeah, I agree...Alrighty, so I've got about five wraiths being built.

P: alright

R: and uh...And uh

P: I've got uh

R: I'm gonna send someone over to join you and see what he sees on the way

P: alright

R: additional supply depots required, alright...whoa, did

P: alright, excellent

R: alright, so

P: excellent, alright

R: is there a ramp? yeah, there's a ramp right near you. Right, right, near your lone guy out there on the left

P: uh huh?

R: there's a ramp

P: is that you?

R: yeah, that's me

P: alright

R: I'm going up on this plateau, just checking it out. It looks, it looks safe.

P: alright. I've got a couple of vultures being built. I've got my spaceport set up too.

R: I also, I also have a ramp right next to me.

P: okay, I see it.

R: but there's, but there's, there's nothing up there, just more rocks and ledges and we look clean.

P: roger, I see that nice uh mineral field you've got.

A: okay stop recording//recording

P: alright

R: resources going up

P: alright, I still need to build up more resources, but I have a good amount of infantry set up. Uh, I've got three, I've got three vulcans, no make that four that I've built, and I'm not complaining about them. I've got one wraith in the air and two on the way. I'm not building any tanks, uh, right now. Okay...Excellent. You saw that big mineral field, uh

R: yeah

P: of course you did, I see you there.

R: I've never run out of the mineral fields that are right near me.

P: yeah, I agree, I'm the same way, so I'm not even worrying about them anymore, you're right.

R: yeah, it looks like I got all water to my south here and the bridge. But I'm gonna wait 'til that last ten minutes.

P: that's quite alright, I think you got a good idea. Just build up and then we can just start scouring together, come in from both sides. Okay, I just built another, another wraith is in the air. The thing you got to keep in mind when we're building up this much, we need to keep building supply depots to maintain it.

R: yeah, I'm getting that error message every once in a while

P: yeah [laughs]...That's lovely thank you.

R: right, I think we're doing good, we're just building, and resources are going up nicely.

P: yep. Yep.

R: can't make any more improvements there, that's to the vulture, I don't need to improve there. I guess I should build an academy, but I'm pretty pleased with, I can't improve

P: alright

R: you know, you can venture out so many ways with the diagrams, but if you can't prove the capabilities of your wraiths anymore, there's no need to, that's gonna be your

P: I agree. Uh, I think the strategy of just building up our, uh, potential is much better than trying to find them at first

R: yeah

P: uh, what I think we should do though is have about halfway through here, so we have better use of the third ten minutes, is to uh, send out like a one man recon from either side down south so we can better locate him. Just a one manner.

R: right

P: uh, so we have

R: why don't we, why don't we wait 'til like the last two minutes

P: okay

R: it'll take especially if we use one of the wraiths, we can search the whole bottom area real quick.

P: yeah

R: I can cloak 'em and hopefully the uh, need myself one more

P: that's fine. I may actually use uh, a Vulcan...Got a little team of four vulcans set up. I've got a squadron of wraiths.

R: yeah, I've got the same. Did you get the cloaking ability yet?

P: no, no I'm not, I'm not gonna get it

R: I'm under attack here

P: are you? From what end?

R: from kinda right down the middle there they came through.

P: oh, son of a b****. How bad of an attack?

R: oh no I'm I'm real strong. I'm I'm not worried about anything.

P: alright...alright

R: we still got two minutes before we need to send that scout out. But anyways, you see, you see the uh, big field in the middle?

P: yeah

R: he came, he came from right to left right down there so

P: alright

R: I don't know, I don't know what his little deal was, but

P: alright, that's fine. I'm hearing some attacking, oh I see him coming over.

R: yeah, but that's okay.

P: that's cool looks like you got a good setup there.

R: yeah, I'm okay.

P: it looks like an SCV so they're probably looking for minerals. They're probably trying to get to that mineral field in the middle.

R: right.

P: right. So I'm thinking he's down in the middle somewhere.

R: alright

P: what else we got out here. Alright, we got a minute to go

R: two minutes?

P: a minute to go before we uh, send them out.

R: I'm feeling a little confident here on this one particular

P: oh yeah, I think I'm with you there. I'm definitely with you there. Alright, I've got a couple fast scooters now. Alright.

R: we got missiles going, we're looking strong. Alright, two minutes.

P: alright.

R: what would you like to do? You want us to both go forward or

P: I think uh if you just send someone down southways that should be fine

R: alright

P: and I'm just gonna send, I'm gonna send one of my vulcans in towards the southwest and get an idea 'cause they're moving quicker. Alright, I've got a building to the uh, just east of the center of the uh screen.

R: I see you right there.

P: I see you. Alright

R: I don't know where he came from.

P: is that you?

R: there he is right there

P: yep, we've got a small little group going on there

R: oh, there's his base, he's right there in the middle between us. He's, he's in between us.

P: he just uh, well remember, he just built that. Remember, that was clear a little while ago. So that is something he just built.

R: Alright, well I tell you what, let's do this. The next game,

P: mm-hmm

R: it'll be our objective to destroy that. That, you know what I'm saying?

P: I hear ya, I think that's a good objective.

R: and then if we are able to clear that out and then move south, I think, I think we'll win it.

P: okay, I just encountered him down there. About the center on the west side of the screen, I've got a couple guys chasing me. I'm gonna suicide this guy and send him down here, see if I can find anything else.

R: alright, good work. Good work. 20 seconds before she kills us again.

P: come on. Alright nothing. There's a plateau in the southern central portion of the field. Uh, let's go.

A: stop recording//now recording

P: give my screen a few seconds.

A: yeah

P: come on baby. Alright, don't forget the alt-print-screen. Just let me know when.

A: okay, you guys ready?

R: yep

P: yeah. Okay. Screen 10. alright, my guy's still down there. I have a feeling he's back here in the left corner. Or, then again, maybe not. Yes, there he is.

R: That's him down there?

P: oh yeah [laughs]. Oh yeah, I think we should uh,

R: well, let's give him a, well whatever you want to do.

P: well, I think you had a good idea with coming out here against uh this placement over here

R: okay

P: uh, []

R: are you ready?

P: [laughs] I think I can be. I think I can be. Uh, I'm gonna send a few guys in there first just to see what they've got and what I can drag out. Uh, and then I think we should just go in with a full frontal assault and overwhelm them. It looks like you're doing that already. Alright. in we go, come on baby.

R: Alright, bring it on

P: Why does it sound like it's so bad on my side? Oh that's why, the f***** invisible.

R: [laughs]

P: I just can't see them.

R: we're doing good here, we're doing good.

P: talk for yourself. I can't see them and I can't shoot them because I can't see them.

R: how we doing over there?

P: I am, I'm getting whacked...How you doing?

R: I'm doing good.

P: alright, I must say, I got spanked...Alright. Yeah, I just wasn't able to

R: I'm holding this bridge over here good, so.

P: come on guys, nail this guy. Yeah, those cloaked guys just nailed me...So those guys still alive over there?

R: yeah, I'm doing okay

P: alright

R: I mean they're, I think they're destroying us, but. Those SCV guys sound like Gomer Pyle. I'm just building 'em and attacking that one place and they're trying to send people up from the north.

P: oh, they are, huh?

R: but but I got enough there that they're not getting anywhere near me.

P: alright

R: so, just keep sending them over towards uh

P: well...my biggest hurdle is those cloaking guys and they just nailed me to death

R: did they?

P: yeah. They just nailed me to kingdom come. Alright, you're gonna get some more vespene gas, so are you.

R: I just can't bring them over fast enough, they're killing them faster than I can bring them over now.

P: yep, that's what I'm seeing. Alright, they just built another bunker. Alright, let's see what I've got out here, bastard. Let's go, schmucks

R: is that a factory? I'm gonna try to build another factory here.

P: okay, I've got a siege tank that just set up sh-. Oh I don't have research, I don't have that siege tank ability. D*** it!

R: has someone gotten you?

P: no, I don't have that ability yet. I could- alright, I'm just gonna have to be a little bit closer then. There we go.

R: alright, bring it on, something on your mind? [mimicking computer]

P: alright, there we go. Alright, I'm in. alright, I think we've got the centered area done.

R: oh, you attacking them now?

P: yeah, I've killed off their bunker, I'm destroying their refinery now. Uh, doesn't mean sh** though. Alright

R: yeah, they're sending some aircraft over trying to get us.

P: are they? Lovely. Well, they may kick my ass. Hah hah hah hah! No they're not. Little schmucks, go get them. Go get those freaking little vulcans. Go get those little Vulcan bastards.

R: yeah, they only thing they can do is fly something in on us now 'cause

P: alright

R: they seem to be having uh,

P: oh, bastard man, come on guys.

R: they've got some tanks over there now.

P: they left freaking uh cloaking on me again. Alright. Let's see where I'm at, where's my guys? Alright. I see where you're at, alright we're off.

R: we've got two minutes left, I think we're doing well all things considered.

P: I think so too, I'm coming in to do another offensive against this tank that's down here.

R: he wiped me out, but I'm with you. As soon as I get em, I'll send them your way.

P: alright. Ah, he just killed my airplane. How you doing over there?

R: yeah, it's kind of one for one battle

P: alright, that's fine. Come on, baby, come on. Send my little vulcans

R: my minerals are all tapped

P: alright, only 45 seconds, let's see if I can do, I'm gonna do one last offensive here. A couple of vulcans and some guys. Come on guys, I need, oh bastard, I need you to kill this guy. Oh, d***. Let's see if we can knock out this tank. Come on, come on die you bastard. One more shot from you, alright. [laughs].

R: did we even get him?

P: you got him. Come on. I'm bringing in one another set of vulcans, looks like you've cleared out the area.

R: yeah, we've got three seconds, we're done.

A: screen capture

R: alt-print-screen

P: do the screen capture. Got it

R: got it

P: screen 11

R: I think we won that last one

P: I think we took it, we took our objective. It wasn't pretty but

A: stop recording

Group 2 Trial 1

A: start recording, and you go ahead and start the game
R: may the force be with you
P: very well
R: so do you want to take the top half and I'll take the bottom half
P: that sounds good. Yeah, I'll take the, yeah...Found the bad guys.
R: []
P: my guys who found them, it's [slow?] right now...Don't have a whole lot of guys left after that little
R: []...I guess we can build some air, I'll try to get over to that plateau,
P: yeah
R: unless you find a way
P: I've got the uh scanner thing
R: got air here
P: did you take out the white guys or just [] them for a while?
R: I think they're just kind of pretty much [wasted?]
P: okay. A lot of gas down here.
R: there's blue...that's about it, huh?
P: I think so, there's a couple plateaus here that we haven't checked out. I've got air right now, so I'm gonna check out all the black spots we have left...Got just about everything here.
A: okay, you can turn off your monitors. Stop recording//now recording. Yeah, now you can alt-print.
- alright
- my [arm's?] bad
R: do you have any gas next to you?
P: yeah, there's a whole bunch of gas down right, well I'll highlight it for you. See where the blue is?
R: yeah
P: right above the blue, there's two sets of gas.
R: but you're not sucking any?
P: no
R: the bad guy had one gas, two gas. Yeah, he had two gas up by him, two sets of crystals by him. You got two sets of crystal too?
P: I got a big patch up top. Got a big batch of crystal down bottom right. Two gas right above blue. Patch right here in the middle
R: in the middle?
P: actually not in the middle. Right below white, where white was.
R: yeah. I got a big plateau between me and the water, and you got the stone structures...Is there a plateau north of you?
P: yeah, there's a little small plateau. I put one of my wraiths, my uh wraiths up there.
R: I didn't see it before, but the uh bottom stone structure on your side is actually on one of the plateaus
P: yeah, yeah that's all got ramps so you can go right up there
R: and the stone structure up in the top right corner, I thought that was a plateau but it's a [ridge?]
P: oh, okay.
R: there's only one bridge, right?
P: yeah, down here bottom left. Little islands []
R: are we supposed to be talking about this stuff?
P: []
R: blue does not have a ramp, right?
P: no, but they will shoot you if you go over there with your wraiths, I found that out. Blue is not very friendly.

R: she better watch out when I build nukes.
P: [laughs]
R: is there anything else in the water? Oh, I see it next to the bridge there's like a pillar stuck in the middle
P: yes, there's nothing else really except a couple trees and stuff but.
R: do you see any other trees?
P: uh, there's some over there. There's a little plateau up where the platoon. Right in the center almost there's a couple trees after this little structure, two ramp structure...That's just about it.
R: uh, I guess there's trees down here by this
P: lower where?
R: lower right
P: lower right, okay I see it. Lots of crystal.
R: yeah, it's all mine, stay away
P: sneak up and see what blue's doing...Blue doesn't like spies...Okay so no nuking blue, I know what you're thinking.
R: so?. Where'd you move to?
P: I'm just getting out of the way. Spreading out a little bit.
A: stop recording//now recording. And again, when I restart the game, just do an alt-print screen. Your comms are good
R: check check
P: comms good
A: okay, resume game
P: I didn't know there's another gas and there's another crystal, up north. Didn't see that
R: [] up by the bad guy base?
P: yeah, well I mean the one you're building on right now. I didn't see that.
R: how many ramps do you see on that uh plateau with stone
P: should be, should be just one. I mean uh, I'll highlight it here. Just one. Boom boom, straight up top.
R: [] trees?
P: oh, you're right. There's one over there too.
R: the only other plateau over by me has two ramps. It also has three stone pillars on that
P: yeah, up on the top and a couple skeletons. Three ramps on that one?
R: three?
P: I thought you mentioned only two.
R: two, I thought.
P: Yeah, one up top, and one down right at the very end of it. I don't know where the [space?] ball's at...So there's nothing down here. No trees, no nothing.
R: there's trees in the bottom right.
P: bottom right, oh, 'okay. But no plateaus or anything.
R: I thought we had said there were three areas of trees but I don't, I only remember two
P: there's uh one over by the bridge, one over by the bottom crystal, there's a couple of trees up here by the uh stone structure on the platform.
R: okay, yeah
P: [walk?] to the right.
R: Ah, nuclear weapons ready, bye bye blue...Ooh, another patch of trees. Uh bottom right, there's one patch of trees right to the left of the crystal and one smaller patch six inches above it.
P: okay, I see. Three trees in there?
R: I love this music, man, I hear it in my sleep

P: I can't hear the music.
R: oh, sorry for you.
P: we usually turn the music off cause the [computers? unintel] lay of the land just couldn't handle it. Too much info.
R: plus it doesn't look good when those guys walk in
P: [laughs] well, half of them are playing too so. They'd always gang up on the officers...I thought you were kidding, you really did do nukes.
R: oh yeah, judgment day is coming. One minute 35 seconds to judgment day.
P: I'll get my guys away from that then...there's a little ghostie.
R: [I don't think we were supposed to get up on that?], the plateau with the stone structure there's a, under the trees there's two balls of rock, and
P: yeah
R: []
P: there's uh, right where you got that SCV down toward the bottom, got like little, uh
R: dead guys
P: craters whatever they are
R: yeah
P: I saw some skeletons up there somewhere on that plateau south of the water. Couple skeletons.
R: those were blue [] scouts came over looking at me and I trashed them...Did you copy that up in the left hand corner is that, looks like a manhole cover.
P: yeah, []base...And there's no water up here towards the top near the pillars. She knows that my mapmaking skills stink.
R: Two minute warning...bye bye.
P: watch she's gonna come out with like 40 battleships.
R: spank me dude.
P: I told you, don't attack the observer.
A: print screen capture. Just Alt-print screen. And update your maps. If you're gonna kill me don't do it until the very end. Stop recording.

Group 2 Trial 2

A: now recording, you can go ahead and start it
P: alright, I'm bottom left.
R: top left.
P: I'll take bottom right.
R: I guess we're not supposed to share vision?
P: no, doesn't look like.
R: I was working right, but I had a plateau in between the (me?) other corner and the rock. I'm going up around
P: alright. I found an island down here on the bottom left is an island so far as I can tell. Here we go.
R: so it appears there's water between you and I.
P: right, right now there's, uh, there's a big river on the bottom left, about middle of the bottom left here.
R: Which way's it going?
P: from what I can tell, up to the, going up the left. There's a plateau in the middle of the left hand side with a ramp.
R: uh, think I have bad guys. Yeah. He's top right
P: top right?
R: and he's about to be toast.
P: there are a few guys. We've got three guys heading south and they're right going right towards the uh other plateau.
R: yeah
P: spreading out towards me
R: on this little plateau? Oh, never mind.
P: nah I got some guys checking it out.
R: that plateau on the top goes all the way across the top of the screen. And there's looks like two ramps. The bad guys' just below that plateau. Oh no, he iced all my guys
P: uh oh
R: I bet he's [] small structure in the middle plateau.
P: the middle plateau?
R: on the left there going up the left hand side
P: uh, looks like a little, little square it looks like. A little square and some small rocks right above that and below it, so Seems to be two ramps on that plateau. On the left hand side.
R: I went up one on the right, so is that three ramps?
P: just two, two ramps...hey, crystal...still haven't found bad guys yet.
R: are you working up towards the top right?
P: yes.
R and P talking at same time
P: As far as resources go, oh hello, bad guys! The only resources I've found have been a gas just below that plateau on the left and then the crystal uh over by the bad guys
R: there's a plateau in the middle with gas and crystal on it
P: bad guys
R: gas just below the bad guys, did you even see that?
P: I haven't seen that, I'm busy cleaning up the bad guys real quick. They've got a bunker. That's not nice...In the bunker. Not my []. Oh, that's you.
R: [] bad guys. Let's trash his, uh
P: bunker?
R: barracks.
P: barracks.
R: bunker. []
P: let's get to work.

R: are you below the river? You said lower left, right?

P: yeah, there's a little river that just kind of dog-legs left.

R: is there a bridge?

P: not that I can find yet. Still got []. Well.

R: uh oh, I just lost my little guy that's in the middle on that plateau. Oh no, there he is, my bad.

P: it looks like the bottom right, can't tell if it's one big plateau. Can't find the other side of the plateau yet, but there's crystal and gas, okay yeah. There's a, where am I?

R: have you gone up on that stone structure on the kinda top leftish. I'm passing you guys right now.

P: yeah, there's nothing on there right now that I can find.

R: so how many stone structures have you covered yet?

P: let's see going from bottom left to top left: there's the, uh, plateau in the middle, two ramps, one little stone structure right in the middle of it just a square; the one you just checked out, walked by, uh,

R: it's just a square right

P: just a, almost a square, a little bit rectangular

R: stairs on it

P: no stairs, just to the south of that one structure you just backed away from

R: yeah

P: there's a little square right below that.

R: and kinda up and to the right of that there's a funky looking cross shaped sorta stone structure

P: okay, yeah. Your guys are almost there. What are you guys doing?

R: you still have guys up by the bad guy?

P: yeah, I'm just taking out things occasionally.

R: you building any air yet?

P: nah, I haven't yet.

R: I just built a factory. I'm [] for air to look up on top of that funky looking stone structure. Do you see those crystals to the left on top of the stone structure between the stone structure and me?

P: stone structure and you

R: I'm on top left and there's a stone structure below me halfway between us, I guess

P: I haven't gone up there yet. I haven't found you yet...There you are.

R: hello.

A: //now recording. I'm gonna start the game

R: alright so did you say you found blue yet?

P: I haven't yet, I'm guessing they're on this center tower here

R: what's in the, uh, bottom right?

P: I haven't [] that yet. Right now it's just a plateau with some gas and stuff on it. Okay, on that middle plateau, is some crystal on the bottom right of that plateau but no blue so I'm assuming blue is down bottom right

R: yeah

P: there's only one entrance to that bottom right plateau and that's over on the right hand side

R: yeah, I see you on the bottom left of the plateau area, and

P: yeah, I'm right by you there.

R: how far does this thing go?

P: it's all the way to the left hand, er, all the way to the water. You're almost there, now you're there. I don't see another way down.

R: so what is exactly to your right of your base?

P: uh, water. Right where your little two guys are on that plateau is water all the way across until you reach me.

R: okay

P: and kind of []out there a little bit, that's it. There's no way to get to the bottom right hand side.

R: []

P: oh hey, getting attacked.

R: where? Where?

P: they built another barracks. I'll take care of that real quick.

R: are you getting beat?

P: my firebats are almost dead. Got the calvary coming though...Alright, blue is in the bottom, oh wow. Blue's got a huge area on the bottom there

R: you got planes?

P: no, I've got the little scanner.

R: okay

P: White is kicking my butt...Forces under attack.

R: I'm not too worried about them this time. I just want to look at the map.

P: [] barracks here real quick.

R: does blue have a lot of air defense? Oh yeah. Run away.

P: the answer is yes.

R: I guess I got to get me one of them fancy

P: scanner looking thingies.

R: scanner thingies...Does white have any air defense?

P: Uh, white doesn't have much of anything right now. Getting less as time goes.

R: have you seen on top of that, kind of funny cross shaped pillar stone thing yet?

P: not yet

R: there's nothing on top of it

P: okay, oh you got wraiths that's right

R: yes. Have you been up to the top plateau, across the top of the screen?

P: yeah, I just kind of screwed around there.

R: there's like a little stone pyramid and then a hole, and some trees.

P: some trees and uh, one tree over on the right hand side.

R: so the bad guy had crystals and gas.

P: gas on the right-

R: on the right hand.

P: below and to the right.

R: and to the right, got you.

P: alright, on the center plateau there's some crystal on the bottom right, and gas on the left, and there is, oh and there is a ramp onto it.

R: yes, I thought there was two ramps.

P: two ramps?

R: on the center plateau right?

P: okay, yeah I see the other one.

R: I'm seeing on the plateau to the left, there's a stone structure and two like little grassy plateaus.

P: right. Alright then, that's it.

R: how about you build some cruisers and take out blue's air defense and []

P: []...get my guys to work here.

R: alright, so for me you got crystal to the north of me and you got a little crystal down to the south of me, see those.

P: mm hmm. And gas, gas to the right of you.
 R: I got two gasses, I'm building on one and one's free.
 P: okay.
 R: and then there's trees to the SE of me. Another four stone structure
 P: okay, got it
 R: so on the plateau that you're building on, anew, there's one gas and one crystal
 P: mm hmm
 R: couple trees to the left.
 P: yeah, she's got between her little island and my side there's, there are no little [] in the water at all except for a little pyramid thing in the upper left part of the water
 R: how many pyramids?
 P: just one little pyramid right in the middle of the water in the upper left.
 R: that's []
 P: yeah I can [] you some []
 R: so you're talking from your base out to the NE in the water, there's a funky pyramid.
 P: right, yeah. And I've got trees to the left of my base.
 R: her island goes all the way to the bottom of the screen, right? There's no water in between.
 P: uhh, yeah. A little bit of water on the right hand side but very minimal.
 R: so you've got one gas you're not using to the north of you? One gas you are using.
 P: yeah I got one gas just north of me and one gas just south of that big flat plateau on the left.
 R: you got one patch of crystal that you're using
 P: yes, one patch.
 R: okay, so one more time, where the bad guy lives, there's gas to the S, there's still a bunker in the SE, see anybody in that?
 P: no
 R: alright, he's got gas and crystal.
 P: right
 R: and there's a plateau running across the north of the board and right in the middle below that there's a patch of crystal.
 P: right. Oops.
 A: //okay, now recording.
 R: print alt again
 A: yeah, every time I restart it so it's in color. So you're good to go?
 P: good to go
 R: how'd you do on the drawing?
 P: actually, surprisingly well. Missed some trees on this bottom plateau
 R: on the left of that plateau, left hand?
 P: yeah left, towards the left hand side. Not too bad. There's a lot of blank area here on the right hand side so that made it easy.
 R: oh, I forgot the trees and the hole in the top plateau.
 P: these battlecruisers just take way too much time.
 R: yeah
 P: ah
 R: how much do those cost in gas
 P: 400 crystal, 300 gas
 R: ouch
 P: yeah

R: you build those, and I'll build dropships and drop a bunch of guys and kill the towers

P: can you use my dropships?

R: no, I'll make, do you have some?

P: I have one

R: no, I don't think I can.

P: we can try. You got guys up here by this. I'll go try to see if I can't pick up your guys up

R: sure

P: at the top plateau just out of curiosity.

R: no, I'm clicking on you.

P: no, oh well. Just my guys.

R: alright so one more time around the horn. I got two oils using one, one's vacant. I have crystal to my north, I have crystal to my south.

P: right

R: you have crystal on your right, you have one oil you are using gas you are using one gas unused

P: you're breaking up here

R: oh no! alright plateau on the left has stone structure in the middle and two grassy plateaus on top of it with two ramps.

P: right

R: plateau in the middle two ramps, crystal, oil, I mean gas. And three other stone structures

P: alright, long plateau across the top with one ramp on the left hand side with little pyramid, little hole, trees. Just below the trees there's some crystal. Got another ramp between the two patches of crystal, just another ramp up on the plateau for [] one single tree. We got white's crystal where they used to be, uh, white's gas. Got a fountain of white's gas and another gas that's not being used. We've got that long plateau on the right. [] gas and crystal below.

R: only one ramp on that one

P: right, right.

R: are you ready to rock and roll?

P: I still got

R: why don't you go do some preliminary stuff and [] bomb it

P: I love battle cruisers.

R: you started yet?

P: yeah, I took out some of her air defenses here. There's, there's []. It just takes so long to get the yamato cannon going

R: oh yeah, that'll work.

P: we're gonna let her last the full two minutes then right

R: oh yeah, [] hit her command center yet.

P: too slow...alright, so we've got just about all the terrain features

R: she has crystal and gas too []...Die purple!

P: oh, you don't want to be doing that.

R: hey now

P: you started it

R: I was bored

A: one last screen capture. Stop recording

Group 2 Trial 3

A: start recording. You can start it
R alright [I'll just?] goes down underneath me to the bottom.
P alright, I'll go straight down
R: there's nothing up here
P: what topside?
R: right
P: yeah, there's a little plateau below me, there's nothing there either. Although there's some crystals right below it...on that plateau.
R: What's below that crystal and gas right below you. There's a plateau and there's crystal and gas.
P: yeah, crystal
R: oh, bad boy, run away.
P: I got guys coming in.
R: oh, good. Pick up the pace
P: I'm going as fast as I can...Get out of the trees, guys. Ow, that hurt...Ow, that hurt.
R: run away, run away
P: oop, just got my butt kicked.
R: blue's probably on the, I've got water in the middle, she's probably on the island.
P: I'll find out here real quick. Oop, no not there. Bottom right? Yeah bottom right corner. Got some structures over here on the right hand side underneath that crystal.
R: plateau on the left side is just a grassy knoll there's a grassy plateau on top of it.
P: the grassy knoll?
R: yes, the grassy knoll.
P: same plateau right below me.
R: I'm the one in the middle.
P: All my guys got killed, that's not good.
R: looks like there are more stone structures down and to the south of it. The south of the crystals right in the middle of the bottom [screen?].
P: yeah I can see that.
R: ooh, and water.
P: alright, [] funky looking thing.
R: I like the funky looking thing. Cool.
P: alright so, my guys have crystal and some trees. Some trees to the left of me, got that plateau.
R: that plateau's south, it's just got a grassy top on it
P: yeah, right in the middle, takes up almost all of it. Uh, one ramp...Two ramps.
R: okay, so there's a stone structure to the south of you, you got like a cross in the middle with some walls around it
P: yeah looks like a cross right between right in the middle of four walls or so.
R: blue is on a plateau with no ramps, right?
P: yep, and she's actually on a grassy knoll on that plateau.
R: she's not safe. Alright in the middle above a lake there's like a rim of plateau. Oh, there's two lakes.
P: two lakes
R: there's kind of a river just to the south of the bridge
P: oh, I see that. I think there's a [], right, dead-ends.

R: so there's three stone structures: the one you're at right now, the one to the south of your camp, the one on the bottom of the screen.

P: the one I'm at and the one to the south are just little crosses.

R: uh oh, white's attacking.

P: white's attacking who?

R: me

P: oh.

R: oh no.

P: Oh my gosh, alright, I'm coming over to help.

R: I think I got him.

P: white's a little more aggressive today. Oh yeah, you got him.

R: someone's using the stimpack...Alright, to the south of me is the bridge, and there's oil, I mean gas, using oil, I'm thinking of Warcraft™. And there's gas. Plateau, one grassy knoll, one ramp. Oh hello. [] bunker. Yeah white.

P: white's a little aggressive today. Where's the rest of my guys? Come on guys, help him out. I want to kill those guys. Oh my gosh. White's very aggressive today, white's not a happy camper.

R: wow, I'm actually going to have to do something this game. Alright, man.

P: alright, time for the siege tanks. Get back up here. It also looked like they're both coming up towards you, so

R: yeah

P: you might want to - oh yeah. Same thing I would have done, bunker right there.

R: I wonder if white'll have air this time.

P: uh, looks mostly ground forces right now, and lots of them. We've got one, two, three barracks.

R: oh yeah. You feel like building tanks or troopers?

P: I'm a siege tank man, I'll get siege tanks.

R: alright, I'll get the troopers going.

P: where are my siege tanks.

A: stop recording//start recording. Do the screen capture

P: righto

A: okay

R: how'd you do on the map?

P: uh, kind of misplaced a couple of things. I got to learn to draw smaller. Make things way too big.

R: I didn't notice all the stone structures are crosses, aren't they.

P: uh, yeah they are actually, I didn't notice that either. I missed the crystal and all that stuff right above that little lake at the bottom...Alright. Keep an eye on these guys down here see what they're doing.

R: Ain't so tough

P: Not with siege tanks...I don't think he's going past that bridge.

R: you think?

P: ah, I don't know.

R: alright, except for the map, I think I actually hit everything good. Except you got? No, I missed a tree back by the stone structure underneath you, there's a bunch of trees actually.

P: yeah, there's trees all around that little corner underneath the stone structure.

R: yeah

P: uh, there's trees just to the left of me by the plateau.

R: I got those, I missed the tr- I got the uh down south, I got the stone structure and the minerals, [] whatever you want to call them.

P: stones, gas, stone, crystal, over by that lake.

R: yeh
 P: alright
 R: he's got tanks.
 P: oh, okay. I think this is a real good place for nukes.
 R: hmm, I like nukes...You want to go take a swack at him?
 P: yeah, I'm gonna, I'm getting my siege tanks ready to go. Need a couple more. [Knock him?] down a little bit here real quick, when I come in from the left hand side.
 R: left?
 P: right, my right hand side.
 R: you're the left.
 P: []
 R: I'm gonna start coming in from the top.
 P: oh, crap! They're coming at me. Reverse!
 R: if you want to hold 'em, I can come in from the side.
 P: I'll hold 'em, not a problem.
 R: good
 P: my guys are killin' 'em, there we go. Kill them please. That's not good
 R: []
 P: yeah, he's not very happy right now.
 R: you guys are [].
 P: my guys are dead. Not good, not good at all.
 R: oh, he's building...Oh, he slayed me.
 P: yeah, he, uh, kicked my butt too. I []. Don't worry.
 R and P talking at same time: []
 P: huh?
 R: he's not building that terran center anymore, just letting it sit.
 P: [we?] killed his SCV.
 R: who did? you did?
 P: I don't know, one of us did.
 R: that wasn't fair. That wasn't very nice.
 P: no, not at all. You got a little firebat down here, let me take care of this firebat before you go after, oh, never mind. If you can take care of their soldiers, I got a wraith coming in, that can take care of that siege tank. Eventually.
 R: crud
 P: it's slow.
 R: run away
 P: jiminy Christmas.
 R: I'm gonna start building wraiths.
 P: yeah, I've got some...Couple guys down there. There's the other command center that he's building. He's got some serious forces.
 R: I'm gonna go try and spank that.
 P: you want to wait for me, I got my guys over here.
 R: yeah, sure.
 P: Hang on.
 R: can I say 'spank' in an official NPS thesis project?
 P: too late.
 R: spank, yeah!
 P: alright [], yeah, yeah, yeah...[talking too low]...I just pissed him off. They're coming at me over here.
 R: alright, I'm gonna, I'm gonna start moving in
 P: okay, I'm distracting him on the left hand, the right hand side. If I could get my lefts and rights down. Well I was, there's only one of them. There we go. Oh, that hurt. Right in the middle of the game.

R: it's getting good!
 A: stop recording//start recording. Do the screen capture again.
 P: I just noticed that they don't have any air towers whatsoever, so the best way to go about them would be to uh are the wraiths
 R: roger
 R and P talking at same time
 P: -kick their butt.
 R: at least he's strong now.
 P: yep...Oh yeah, both wraiths, it's the way to go.
 R: he doesn't have any air cover, right, you said?
 P: not at all, not at all.
 R: alright, the tower's [].
 P: not that I can see.
 R: did you do any changing to the map? Did you have a good
 P: I just adjusted the things that I had missed the first time. Didn't notice the ridges around the lake in the middle.
 R: did you see that big robot thing in the lake?
 P: robot? Oh no, I didn't see that either. That's pretty cool.
 R: I left myself short on gas, I don't have enough to make many wraiths at all.
 P: alright I've got, I've got, six of them.
 R: did you add cloak ability?
 P: yeah, just waiting to get some power up. That's your wraiths moving in.
 R: I'll sit outside and wait for you to come, I don't have cloaking ability yet.
 P: [talking low] [] he go around here somewhere. Where'd he go.
 R: what'd you say?
 P: one of those little white SCV's just zipped by my stuff over here. Don't know where he was going.
 R: I'm gonna make an alliance with blue.
 P: yeah yamato nuked...Are you ready, your wraiths all powered up?
 R: uh, no.
 P: I didn't get you on that, I think you're cutting out again.
 R: no, they're not powered up yet.
 P: okay. Let me know when you're ready.
 R: does that plateau right underneath you have one ramp?
 P: hang on a second, I gotta, yeah, just one.
 R: [] get 'em!
 P: there we go.
 R: so yours are all powered up, I guess?
 P: except for my new guys, but for the most part, I'm ready.
 R: sure, why not.
 P: and we're off.
 R: I'll take them from the back side.
 P: oh, hey! He did get some air towers. That's new.
 R: that's sneaky.
 P: he just jumped out of nowhere. I need to get my butt out of there.
 R: he's got nothing on the back side. I'm just gonna eat up his SCV's.
 P: I just got to keep from getting my butt kicked here. Oh jeez, he's got a whole bunch of air towers. What's that?...Alright.
 R: I'm gonna nuke.
 P: you got a nuke ready?
 R: no, I said I'm gonna go, go that way...Ah ah. Forgot about all his SUVs, SCV's, whatever. SUVs [laughing]
 P: I hate SUVs.
 R: [laughs]

P: I'm about ready to go lay some serious smackdown on him here. Yeah, he's toast. You want to help me get these siege tanks before they. While I move my guys in for some serious butt kicking.

R: uh oh.

P: oh yeah, now the fun begins...White thought he was all bad.

R: yeah he did. you ain't so bad.

P: not when you get a half dozen siege tanks coming down on you.

A: okay if you can do one last print screen

R: are you going to stop the game

A: yeah

P: blue survived this time

A: yeah, only because the computer...

Group 2 Trial 4

A: recording. Oh, was it cutting out?
P: yeah, he is cutting out a little bit.
R and P sound check
P: yeah, sounds good
R: starting
P: alright, I'm top left.
R: bottom right.
P: yeah, I've one group going right, one group going down.
R: I've got one going up and right, down and left.
P: rog...There's a big patch of crystal right in the middle, the top middle.
R: one in the bottom middle too.
P: rog. As well as there's a crystal patch, uh, just above left middle.
R: hit a river yet?
P: uh, got a couple structures, but no river yet.
R: you say you're upper left corner?
P: upper left, yes.
R: I ran into a river just below-
P: okay
R: the right corner.
P: I've got river just below uh left middle...Plateau upper right.
R: can you go up it?
P: I haven't found a ramp yet. Take it that's probably where blue is.
R: [] the blue...There's a little pond in the bottom middle underneath the crystal [].
P: okay, I've got, I hit the river on the uh, just above right middle.
R: are you all the way over to the right hand corner yet?
P: all the way to the right hand side. Upper right corner's a plateau, you can't get on. Just below that is a river, so far-
R: I got some white action going on bottom left.
P: bottom left?
R: yeah
P: alright, can't find a ramp yet. Are they aggressive white again?
R: yeah. []...Are you [staring?] at that stone structure?
P: I've got just one stone wall, long wall, to my right hand side. That's it.
R: I got a boomerang shaped stone wall on my left...Okay, just below the right hand corner, that stream that ends there?
P: mm hmm?
R: there's a plateau with a stone structure. [] plateau in the upper right?
P: just to the left of where that stream ends, is that what you're talking about?
R: over on the far right of the board.
P: far right board
R: the stream goes all the way over to the right.
P: okay, I see the plateau. Left hand side of that stream is another stone plateau with one stair but nothing on top...There you are!
R: hey
P: excuse me, pardon me, pardon me, excuse me.
R: [laughs]
P: come on guys, it's not that hard. There we go. Yeah, I'm heading right for that stone uh, that other plateau, the stone structure, the stairs. I'm probably heading right for the white guys.
R: you said you think blue's in the upper right?

P: I think blue's in the upper right, if you follow that stream along to the right hand side, there's a plateau you can't get on. I'll find out here real quick. Yep, that's blue...A lot of little, uh, grassy knolls and stuff.

R: yeah, there are. Hey.

P: tough jam.

R: so you said there's minerals in the upper middle, right?

P: yeah, actually there's a, where your guys are right there, go straight, oops missed it, straight to the left and there's uh, left and up a little bit, there's minerals.

R: okay, white's just got a lot of open area.

P: okay. And he's right below that stream then to the right.

R: yeah, below the stream

P: ah hah! Ooh, he's building up pretty good too. I don't think I'll be attacking him.

R: Okay, so walk me from your base across to blue what's in between you guys.

P: okay, across the top, I've got a boomerang-shaped, or an L-shaped wall to my right. To the right of that, almost in the middle of the top is gas, a little below and to the right of that is crystal, a big patch of crystal. Then the blue plateau. Below the crystal is a stone structure with one ramp, or one staircase on it. Yeah, my boomerang wall, my wall looks just like yours except a little narrower and it doesn't go all the way to the bottom, it's just a little L shape.

R: did you get the stone structure down in the bottom middle, did you already [know?] about that?

P: bottom middle?

R: Not bottom middle, I mean left hand side middle-ish, kinda lower than the crystal

P: yes, yeah I saw that, I was talking about the little square with some stairs on it.

R: okay, so there's only two streams?

P: yeah, two streams that go just a little less than halfway across.

R: and then there's a pond on the bottom. Is there anything else up top?

P: I haven't seen a pond. There's no water up top. I haven't found the pond yet. Howdy.

R: uh oh. Oh, he's trying

P: Is white attacking you?

R: yes

P: Oh crap. I'll help you guys. I'll build some bunkers, while you get busy. Crap. Sorry, didn't mean to curse on tape.

A: that's alright.

R and P: [laugh]

P: where your little red guys are coming down, there's a whole wall of white guys, right behind my guys.

R: okay, let's go get 'em.

P: yeah, getting 'em.

R: get some!

P: ah, they didn't stand a chance. I don't know if there's anybody behind them. No, it's all clear. Clear as [] there.

R: I hate slow game speed.

P: I know.

R: alright, so three stone structures, is that what we said?

A: stop recording//start recording. Okay, do the screen capture again then let me start it. Good to go?

P: good to go.

R: ah, I screwed up the top of the screen, I forgot about those other crystals.

P: yeah, made my, I gotta learn to draw smaller, my river's taking up half the [tank?]. A lot of open area in the middle except for uh

R: grassy knolls.

P: grassy knolls. My little disclaimer, map not to scale.

R: how many grassy knolls are there? Three?

P: let's see. There's one L-shape, one blob,

R: another blob.

P: let's see. And there's gas there too, I didn't notice that.

R: so three blobs in the middle, stone structure, crystal and gas. Oh, he's got siege tanks already.

P: he does.

R: he's moving up an SCV towards the oil just north of the left stream.

P: alright, I can fix that. Does he have siege tanks with him, or just SCV's?

R: he sent one SCV ahead of a couple tanks and some troops

P: oh really? Yikes! See if my guys can take him...Where'd he go? There he is. Holy crap. Oh, that's not good. Not good. Okay, I'm dead.

R: you got anything back at your homebase?

P: yeah, I've got a bunker. That's about it. So if he comes at me, which he is, kinda sorta doing. Ah, alright, fine be that way.

R: What do you need? I've got a couple troopers up this way

P: []. Oops. Oh crap!

R: where are you?

P: he sent some marines over toward my uh stuff I was building.

R: where you building at? Above the crystal?

P: yeah, upper up left, I mean top middle, I don't know where the h*** I am. Alright, y'all pissing me off now. [] over there under attack. Oh, jeez.

R: does he have the crystal yet?

P: yeah, he's getting it.

R: oops. Is your bunker, you've got bunkers. Is he past your bunkers?

P: yeah, he's actually all the way up top north. Right where your guys are, all the way up to the top middle. He's kicking the h*** out of my

R: the top middle?

P: yeah

R: so are you set up by that crystal also up there?

P: I was.

R: oh

P: no longer. But, I was lucky enough to have some wraiths over there. And I'm gonna go over here and kick his butt 'cause he pissed me off. Yeah, there's a siege tank

R: hey, that's not nice.

P: that's right where he took me right out of. Get back over here, [back and fix you?].

R: did you get him yet?

P: I'm working on it.

R: I've got a couple of [unintel wraiths? Marines?]

P: yep

R: and another tank

P: where the h*** are these guys coming from?

R: alright, I've got your back

P: oh jeez, alright. Kill him please. Thank you. Run, run, run. Okay, don't run.

R: do you have the map down?

P: uh, except for your corner of the world. I'm busy getting my butt kicked right here. Oh jeez, I got nobody.

R: alright, what do you need? I got about eight guys.

P: I just got three marines over here, kicking the heck out of my command center.

R: your home base?

P: no, the command center I just put, yeah

R: you can lose that.

P: I don't want to though, it's just the

R: principle of the thing

P: the principle. Bastard coming on my territory. Where the heck is he getting all these guys from, hello. He's [] a heck of a lot of stuff. Oh jeez, he's got.

R: yeah he does. Alright, I'm slow, but I'm finally getting something going.

P: I'm running out of gas, I don't have enough gas.

R: so go []

P: ah, that's what I'll do.

R: so, he's pretty much got that center.

P: yeah, he's got that pretty good right now. They moved up a whole bunch of forces...I don't have enough gas

R: can you take that there's gas right above the river on the left.

P: yeah, that's what I'm working on right now. I'm just a little slow on getting that.

R: alright, so one more time, I got an L shape blob in the middle, two other [] blob in bottom middle, stone structure, then crystal, and gas he's picking on.

P: down below? I don't have anything down below here. Okay, I see the lake.

R: top

P: What blob you're talking about top?

R: talking the top, yeah

P: yeah top. Stone L, gas, crystal, and the blue plateau, right underneath the crystal is a square plateau with a structure and stairs. You've got blob, grassy knoll to the left and below of it, another one to the right of that, just kinda like three right in a row, three right in a bunch. Directly to the left of those, there's crystal I'm working on, below that a square structure, right above the river, gas right above the edge of the river. Below the river, on the oops, below the river on the left is white, pretty much out in the middle of nothing. Along the bottom, there's a grassy blob, pretty long, a lake, and then your stone, your stone L.

A: stop recording//start recording

R: this is the last game right

A: yeah, [reminders about print screen]

R: messed up the blob on the middle right

P: yeah, I forgot the little grassy knolls by your home base

R: looks like there's two of 'em, two long ones.

P: oh, you little bastard. He's got wraiths, by the way...came after my guys and he's dead. No he's not. Now he's dead.

R: where's he at?

P: ah, I was getting my little gas thing, right above the left hand river, except I don't have any air towers. Not enough capability for that.

R: got some wraiths coming for you.

P: they do cloak also, so.

R: []

P: yeah, pulled out all the stops on this one. Oh crap. He's kicking my butt, so I'm going to be moving. He's got another one, super.

R: so he's cloaked right now? I don't see him.

P: yeah, he's cloaked. He's uh, he's got two of them now heading right down towards my gas thing. Do you have any air towers?

R: no, uh oh, oh that's you.

P: well, he's right behind me.

R: oh yeah, run away.

P: He's still got one cloaked though. Hurry up and build that super thing guys, jeez almighty. Oh, great. Oh boy, I'm screwed.

R: []

P: I don't know. Alright, I've finally got air tower power.

R: []

P: alright, let's try and build some of these things...Oh, you little bastard. Run away.

R: where'd [you get hit]?

P: same gas place again, right where you're coming up on.

R: got a siege tank sitting there.

P: hah hah, I've got an air tower for you, you little jerk.

R: he's got a wraith right by your guys.

P: a wraith.

R: alright so we think we've got the map down, right? Except for those blobs up on the right I guess.

P: yeah, I messed up on those, concentrating on not getting my butt kicked and-

R: yeah

P: and I didn't get a chance to look at your stuff down here on the bottom right.

R: focus on the mission.

P: missed the crystal right above. He doesn't want your crystal, he just wants my crystal for some reason. Your crystal's closer.

R: he's afraid of my forces

P: yeah, okay, alright...White is on the ball today. This one, at least. I think he and blue are going to survive this one.

R: []

P: yep. Oh - where'd these guys come from?..Yeah, just survive

R: you got anything to throw at him?

P: I've got some wraiths. But I'm sure he's gonna kick my butt.

R: we've got a minute...I'll find something to throw at him so get in position...You got guys in position?

P: I've got five wraiths right now down there. That's all I got right now. I've got six of them here

R: okay, bring it. Bring it on! Oh I'm getting spanked

P: I'm-a coming. Right over there.

R: are you cloaked?

P: yeah. Trying to take out his siege tanks, but I don't think I'm going to be there quick enough.

R: oh well.

P: he just uncovered me, run away.

R: Once around the horn, I got blue, I got crystal and oil, er, gas. Then I got you with an L-shaped wall, I got crystal south of you, oil south of you, steel, er, stone south of you, river, got three blobs in the middle with stone structure underneath crystal, got river on the right, plateau with stone, two [Pokemon?] blobs. He gonna attack me?

P: oh yeah, he's coming up on me. []

R: blob, a pond and an L
P: yep. Steered some mop up here, just killed some various.
R: nefarious?
P: nefarious various.
R: nefarious various.
P: That's right, hoo, that was good. Ooh, one wraith left. I swear, he has a medic running around here somewhere...Yeah, don't attack me...Oh, oh, wow. He didn't like me. He does not like me one bit. Ooh, siege tank [] Vulcan, not a good thing.
A: okay, if you can do one last screen capture.
P: man, he had it out for me, what's up with that.

Group 3 Trial 1

A: start recording. You can go ahead and start the game.
R: There's a beeping.
P: Yeah
A: can you hear that?
R: Okay, let's see, I'm starting off with 500 apiece, I got a squad of firebats, and two squads of marines, and four, uh, four little construction guys. Uh, I'm gonna have one of those start off and make a, let's see what else I got. I've got a barracks, and a, uh academy. Uh, let's see.
A: yeah, everybody starts out with the same thing
P: okay, alright then I won't repeat it.
R: I'm gonna make an engineering bay here so I can get some vehicles.
P: building another supply depot.
R: And uh, spew out a few more SCV's to get the rate of production up. And I'm starting to fan the guys out and explore a little.
P: I'm located in the bottom left hand corner.
R: I'm in the upper left.
P: Okay
R: haven't seen the observer yet...Let's see
P: sending some guys out to the right on the bottom of the screen.
R: and I got some more another geyser off to the, I'll just call the right, the east. Let's see.
P: directly to the east of my camp, I've got some water, not sure how big it is. I'm gonna head NE to skirt the shoreline.
R: okay, I'm uh about in the middle of the top going up one level, on a plateau. I'm just heading all the way across the screen here.
P: okay. And now I'm having to head NW to follow the shoreline.
R: okay
P: got some sort of temple that's set in the middle of the water here or what looks like the middle for me anyway.
R: running across, made it all the way to the eastern edge of the screen, I got nothing growing on this plateau, I'm heading down the, gonna go about one view, view circle width down and cut back across-
P: alright
R: just to fill in.
P: I'm heading west now, found another gas geyser. It's on the western edge of the screen, about a quarter of the way, quarter of the map size up from the bottom.
R: and I've found a bunch of white dudes mining some stuff just under the uh NE corner. And uh I'm gonna start taking out some of his SCV's until he responds, oh there he is, and then I'll back out. I got a firebat here to wax that guy. I'm just gonna have the guys retreat, I know where he's at. I've uh managed to pump out a couple more marines, I've just started building a factory. And a couple more supply depots.
P: I'm putting another refinery on top of that geyser I found.
R: and I got a few guys following me. Take that. Okay, I'm gonna start with uh trying to get up to building a goliath...And the machine shops of the factory...And I've upgraded infantry weapons going for the second armor.
P: alright, I'm upgrading infantry weapons
R: I'm cranking out, I just put out three more firebats and a few more marines just to guard the perimeter. Gonna send a group of guys down to the S see if I can find that water or run into you.

P: I went up followed the water up until it started heading back E, so it tends to uh it's about halfway up the screen it heads back to the E.

R: okay

P: and it appears to be in just the lower SE corner

R: alright, I found a good lot of minerals about the middle part of the W side. Ran into a cliff that runs from the middle of the W side sorta SE-wise, just ran into an attack. I'm gonna draw back and bring him into my defenses. Uh, started a siege tank.

P: and, coming up N on the W side there.

A: stop recording//start recording. Okay.

R: they sure are

P: I'm still heading N on the W side here

R: okay, I just wiped out a squad of his forces as they ran up into me. I'm gonna crank out a few more SCV's.

P: okay, I encountered a, almost looks like some sort of structure, kinda like a temple, flat roofed.

R: where's that at?

P: it's at the middle on the western side, halfway down the screen.

R: okay

P: being attacked right now. I managed to fight my way out of that one.

R: yeah, I've got the armory, and I'm building several goliaths.

P: I'm conducting research on the U238 shells, increases marines' fire range

R: got ya, and I'm being attacked again. Oh, he's got a tank here...Just lost a siege tank, but uh managed to wipe out his forces that were attacking. He had a, ah, there it is. I'm sending my guys in to wipe out a goliath that he's setting up here. And took care of that. I think I may have found this temple you were referring to. It's like a

P: yeah it's just a flat building.

R: yeah like that you can't get up to?

P: right.

R: and cranking out a few more guys to supplement the 3 marines that I have left. I got a lot of goliaths coming out now to help me with that...Starting work on a starport, and a comsat station so I can just start looking around wherever I want...And I got the comsat facility, it's charging up. I'm gonna do a scanner sweep over by where I first ran into the enemy units on the far NE corner. And he's got a full set-up over there. Uh, starport, pretty much about the same amount of stuff that I have right now, at least in the area I scanned.

P: and that's far NE corner

R: uh, yeah-

P: okay

R: maybe one visual spacing down from the-

P: okay

R: top

P: I'm working on upgrading infantry armor...And I'm in the process of constructing a factory.

R: I'm doing a scanner sweep just below the last one that I did, and it doesn't look like he has much down there.

P: say that again?

R: I did a scanner sweep about in the middle of the E side of the map, uh, doesn't look like the enemy has much down there.

P: okay

R: and, uh, just started producing wraiths...I'm sending a squad of wraiths down to the middle on the W side and then I'm just gonna cut

straight across and see what's in the center. I scanned the center of the building and didn't see anything inside it. It looks like there's entrances to it, uh, in fact it looks like there's several small buildings.

P: okay, well I'm, uh, again skirting the waterline, heading E right now to the top of the water.

A: and do your maps...//start recording. And restarting the game.

P: I'm about a third of the way up from the bottom of the screen heading E, again following the waterline.

R: okay, he's developed cloaking for his wraiths. 'Cause I just tried to attack one of them and he went invisible on me.

P: oh, okay

R: so now I'm doing the same, and I just brought him within range of my detectors so I can wax him.

P: I'm uh, heading S a little bit, encountered a cliff, heading E again...And I'm uh, getting to head SE, again following a cliff or something.

R: I'm running a little low on gas.

P: 'okay I'm at the uh E edge of the screen here about a third of the way up, heading S. I'm on a butte now, found some more crystals. No sign of any white forces.

R: I just sent a couple goliaths up to the top of one of those short, uh buildings to provide myself a little cover and early warning.

P: I'm heading west again, along the water line and I've come to the cliff so I got to head back, to the E...Just N of the crystals I found on the E edge is another gas geyser.

R: I'm just scanning that area until I can find the place you're looking at

P: it's about a third of the way up from the bottom, right on the edge

R: okay, let me know if you see my scanner sweep going through...I just put a missile turret out about a third of the way down, right in the middle so I can detect his-

P: somebody's shooting me

R: it's not me.

P: ah, well they just cloaked. I just lost everybody. White forces are building on that mineral and gas geyser I found.

R: I found, one of the scans, I saw just the top of one of his missile turrets, and it's like smack-dab in the middle of the area.

P: I'm building a starport.

R: he already has one starport a third of the way down on the far E.

P: a third of the way down?

R: uh, I'm scanning, uh, I'm just slowly scanning along the side, yeah I ran into another, uh, encampment of his...I'm just going through and upgrading all of my research. Sent a squad of three guys down towards your position.

P: uh oh

R: yeah, that's always bad. When that happens, I usually like to just spread my forces way out so they don't get trashed. Course I'm wondering where that's gonna hit. That was a waste to use a nuclear launch to take out my missile site that I put in the center. And he managed to miss one of the two goliaths I had standing there...Alrighty, I just ran into your river, found one of those sunken temples. Uh, maybe two view widths from the W side of the screen.

P: right, yeah.

R: And he's got a big encampment right in the center. There goes another one. Oh, I even see the guy he's illuminating. I see right

where the dot is. Let's get out of there. Where's all my wraiths?..Hey, he doesn't like me having that missile launcher out there to see what he's doing. I'm running along the top of the, uh, no now I'm N of a cliff. Okay, I'm just going along the opposite side of the river that you went along.

P: right

R: uh, sneaking in on the back side of his, who's attacking me? Oh, that guy's invisible.

A: okay, do one last screen capture. And if you can end the mission.

Group 3 Trial 2

A: start recording, and then you can start the game.
P: okay, I'm in the, just a little bit above the center on the western side of the screen.
R: you're purple?
P: yes, that's correct.
R: I can see your whole position.
P: Okay, I can see you.
R: so you can probably see my whole position.
P: yeah.
R: I started construction on the factory and engineering bay, and I'm sending a group out to the south, I'm going to explore down to the SE corner.
P: okay, I'm working on upgrading my firepower for the marines.
R: found a load of resources in the SE corner. Are you seeing all this?
P: I'm seeing it, yep
R: oh, okay
P: I'm heading up to the uh NW corner. Found some minerals or crystals, rather.
R: I'm gonna go ahead and build a comsat station.
P: I'm heading E across the top of the screen.
R: found another large block of resources, just minerals.
P: working on building a factory.
R: and, forces just came under attack.
P: yeah, I see it, there's a whole bunch of them
R: I just let all those guys get wasted.
P: there's a, in the center of the screen on the N end, there's a, uh, a little plateau in the middle.
R: okay, you can see his stuff on the other side of it, right?
P: yeah, yeah, that was where I was heading and then decided against it. My forces got split up going around this plateau...Now I got a machine shop...Building an armory now...Heading down to the S on the W edge, here.
R: let me know if you run into any more of his forces. I'm gonna build up
P: okay
R: my defenses in the N here
P: okay, just about a third of the way up on the W edge, he's got a bunker. That's all I can see right now.
A: actually, that's me
P: that's you shooting at me? Okay. Alrighty, so the umpire's shooting at me. Found a couple of gas geysers in the same area.
R: I just did a scanner sweep around his compound up in the N there, so you can see more.
P: I've encountered some water here down in the SW edge here, SW corner. Looks like there's a bridge, though...Some sort of, okay, well, that's not good...Oh my, it's not looking good. No, alright, well I'm pretty much out of marines here so I'm gonna.
A: stop recording//start recording and I'm starting the game
P: okay, I'm building a starport.
R: I'm gonna build a new command center down by the minerals here in the lower right corner.
P: okay
R: in the hopes that I can expand production.
P: ahh.

R: I'm slowly scanning more of the area. I see you getting attacked there.

P: I'm being annihilated here.

R: gotta figure out a way to get over to that side. Ahhh.

P: oh, man.

R: Ah hah, got that wrong...oh

P: thank you for that.

R: do you have anything left?

P: no, I got down to, down to one guy, one enemy left to destroy. I'm building, I'm building as fast as I can. Better hurry up, or I'm gonna lose my factory here...Hurry. Okay...Man. Alright, well I'm gonna have to reconstruct my forces here. I'm reconstructing the machine shop now.

R: found a river in the middle

P: yeah

R: well I think, I'm guessing that he's all up in the top there, and this river is keeping them from coming down to the S.

P: yeah

R: but that could be a bad guess.

P: well, looks like pretty accurate, 'cause both times I've been attacked they came up from the N. Or came down from the N, I should say...I'm working on building another comm center, so hopefully, I can...Build up my resources faster.

R: got an update here, I just scanned his uh perimeter again just to see where his forces are.

P: he appears to have quite a build-up over there.

A: stop recording//okay, recording, and I'm resuming the game.

P: working on building another academy, since my last one got destroyed...Upgrading infantry weapons

R: I'm moving some forces up to this plateau so I can cut him off if he tries to come over this way. I'm gonna get a flight of wraiths out and hopefully be able to make them cloak, and maybe try and take out some of his supplies.

P: I'm being attacked again... Man!...There they are.

R: I'm sending a couple wraiths over there to take out that siege tank

P: thanks

R: hopefully, they won't get schwacked. Looks pretty clear there. I gotta take out the ground troops before, or lead the ground troops away...Lost a wraith...I'm out of here. I'm gonna go repair this guy, and then send it back.

R: where? Oh, there he is. Alrighty, well, I'm having to rebuild some more again...Another one.

P: Ah, they seem to have built a command center. They've built a command center to the south of me here.

R: I'm gonna send over a squadron maybe to take care of that, at least I hope to take care of that-

P: they've got a bunker, oh yeah, great.

R: I'm gonna scan that and see what I can find out about it, as my guys go flying in there. Oh, just a [future?] nothing heavy. Wait, stop with the blue attacking me! Well, hopefully, I drew a few of them away from you.

P: yeah...Oh, man

R: I just sent a squad of goliaths over there to help out.

P: okay.

A: okay, take one last screen capture. Okay, do your map...stop recording.

Group 3 Trial 3

A: start recording, starting the game
R: I see all your stuff.
P: yeah, I see you too, down in the SE corner, there.
R: pretty rocky over here, I'm kinda trapped
P: yeah, I've got a wall on my E side here, I don't know how far it goes...Heading down to the south here, see what I can dig up.
R: still got nothing down here.
P: found some more crystals or minerals
R: found a whole pile.
P: adding machine shop.
R: I'm building a little bunker for defense
P: I got a uh wall on my W side, excuse me, E side, so I got a pretty good defensive position here
R: I still don't see an enemy.
P: me either.
R: I did find a way out of my enclosure here...Defensible at least...Okay, I'm building an engineering bay...Starting the research on the shells.
P: exploring to the S here
R: I'm heading up the middle and still haven't found anybody or
P: found another wall here in the S out on the W edge here. See what it's guarding if anything. Oh, it looks like it might be a little building...I don't think I see anything here. There's water on its S edge of the building there.
R: yeah, I ran into that too. I couldn't get across.
P: found a, uh, gas geyser. Still no sign of white forces.
R: I'm just gonna stake these guys out in the middle here, your guys are just running up right behind mine there. But I don't know if there's any way to get across it. Can you, is that terrain passable?
P: yeah
R: oh there's all my dudes. Started upgrading with the engineering bay...Started building the factory.
P: working on building a starport.
R: yeah, I got that going too.
P: these guys I have down here by yours, I'm gonna take them up north.
R: I'm doing a scanner sweep along the E side, so if you want to go right up the middle
P: that's where I'm heading. Encountered a plateau of some sort, heading up the W side...I'm kind of in a canyon-type thing I guess you could call it.
R: I'm building a bunker right out in the middle, and I'm gonna put a missile bay area next to it...Well, I was gonna build a bunker, but then I started building other stuff and it took over
P: yep, still no sign of white forces, yet. Or blue as yet. Got another structure here
R: I found the white
P: there they are.
R: just did a scan.
P: I see a structure that actually steps to the roof.
R: do you see the white down in the left corner there?
P: yep, I got them. There's nothing here.
A: so even though the barrier's down you still can't look at each other's map or discuss anything during this time. Stop recording//okay, now recording. And I'm resuming the game
R: I [] now, should I have printed a new screen?
A: did you print, did you capture it?

R: when it was black and white.
A: yeah, do it when it's in color. Thanks.
P: I found another crystal deposit or mineral deposit, whatever it is.
R: have you built a comsat station yet?
P: no, I haven't.
R: oh, I got a whole truckload of guys. Where are they going? Can they get across to me here? I think they might.
P: at work on upgrading armor here. Ooh.
R: find their guys?
P: yeah, I just got attacked by one of their SCV's.
R: Got taken out!
P: Means they're out here building somewhere.
R: okay, now I just ran into all their guys. All those guys.
P: I see that.
R: mm hmm, that sure is. You can destroy that bunker, waste your time, it doesn't bother me. Here they come to the bunker and now my guys should be taking them out. And I got reinforcements, yeah, that's what I like to see.
P: found another SCV of theirs.
R: okay, I got a few wraiths coming on line. I think he's using the wraiths, er, the SCV's to explore. It seems like I got, uh, yeah, there's a clear path there to his, down in the, uh, SW there's a clear path to his, from his base to that central thing of minerals, and I just started building up there, so hopefully I can forestall his advance.
P: okay
R: of course, getting all those guys whacked just means that I don't have to build more supply depots. I can build wraiths instead of those guys.
P: we're building an armory.
R: I'm gonna try and box this guy into the corner here
P: okay
R: so if you can move some troops up to just to the edge of that wall you found about two-thirds of the way down on the S.
P: okay
R: just to keep them from running around there. He's got a couple guys running up there too now. Your guys that are on the left side in the middle, if you move them to the right, you can probably cut off these two guys he just sent up the middle. I'm gonna try and build another bunker here and reinforce this point.
P: Ah!
R: what happened?
P: I'm under attack.
R: oh, is that a, uh, what, a goliath?
P: um, I don't know what it is. It's a siege tank.
R: oh, yeah
P: okay, it's history.
R: I'm gonna try and build another bunker right next to the one I already got there.
P: he's sending out all kind of SCV's.
R: I got some guys over here I'll send over. They're just standing around anyway. Maybe he's out of minerals.
P: I'm gonna leave those guys there. Back up here...Working on building a science facility. [] build some more...Adding control tower.
R: yeah, I built a science facility and added a physics lab to it. Uh, researching gun for the super cruiser, and as soon as I get enough uh vespene gas, I'm gonna try and build a cruiser.

P: alright

R: I just sent a bunch of guys out to take care of that siege tank and it's gone, and we're retreating.

P: okay

R: I'm sending in a group of cloaked wraiths to try and take out some of his supply depots, if possible. That's always fun. Especially when he has no way to detect them, 'cause he doesn't have any missile facilities. And I'll just slowly wear down his supplies until, uh, he can't build any new guys.

A: okay, stop recording//start recording and get screen capture when I restart the game

R: I'll try not to screw that one up

A: okay, I'm restarting the game

R: well, not really.

P: oh, where'd they come from?

R: and now I'm in trouble.

P: man

R: he just did a scanning sweep.

P: ah

R: did you just lose a bunch of guys there?

P: I lost them all. History.

R: I kinda managed to save my flyers, at least one of them. But I'm gonna repair him with this SCV that's up here. That's always nice. Now I'm sending three goliaths, and I got one of his supply depots.

P: I'm getting ready to build a battle cruiser here as soon as I get enough minerals

R: yeah, I'm waiting on gas, but if you're going to build one I'll just keep building wraiths. Maybe a siege tank or two to keep the ground troops away there.

P: okay, I got a battle cruiser under construction.

R: I'm building a command center behind the mineral thing in the middle

P: okay

R: and I'm going to start harvesting it. I need to get to this geyser up here too, before the other one runs out.

P: I'm just about finished with one battle cruiser

R: somebody just came out here, an SCV just came out and my guy scared him away. Okay, I'm gonna send in another group of wraiths to

P: alright, I got one battle cruiser.

R: I'm going in with the wraiths again to take out more supplies. Okay, he did a sensor scan. So I backed everybody out, I'm going to wait until the sensor dies down, then go back in.

P: upgrading the [uranium?] attack shells.

R: okay, the thing is done there. There we go, and I scanned the wrong place, or maybe not. Just lost some guys 'cause I was stupid...Oh, I love this. He just walked a ghost right into my missile station, so I could see it...I'm just going to keep pounding on this guy, as long as he gives me the chance.

P: researching siege tech.

R: I don't think that did much. I got a supply thing on fire there. He's sending guys out that are going to get taken out by the siege tank I got sitting here. I'm just using this SCV to keep repairing guys here. I'm gonna see if I can get a nuke built here in 22 seconds. Probably not.

A: okay, do a screen capture, and end.

Group 3 Trial 4

A: okay, start recording. Start the game.
P: alrighty, I'm in the upper NE corner.
R: I'm in the NW.
P: alrighty.
R: okay, I - oh I got a guy going crazy. Get back here!
P: I'm building an engineering bay.
R: sometimes the shortest distance between two points is all the way around the other side of the board. There's not too much up on this rocky ledge here, maybe I'll just send that guy out that way. I'm sending a guy over your way.
P: okay. Alright, I gotta work on sending some guys over to your side of the world.
R: I found a river with a bridge...And I'm crossing the bridge.
P: yep, I see you.
R: I'm going back.
P: okay
R: there's nothing really up on this ridge. It's just, uh, it's like some impassable terrain and one narrow path to go through.
P: okay. There's not much between that bridge and where I'm at. I'm just heading back a little lower, a little less than one view.
R: okay, across the bridge found a vespene geyser...Building a comsat station so I can start spying around without having to send guys to do it.
P: researching U238 shells.
R: I always forget that.
P: build another supply depot before I run out here.
R: that's a good idea, I think I may do the same. I just started the construction on a uh, just got the comsat station in, just started construction on an engineering bay, that just came on, starting the upgrade.
P: I'm working on a comsat station myself.
R: okay, I'll scan the left side if you scan the right side
P: okay
R: just found some more of the river. The river is 3 or 4 screen heights down from the top on my side. I'm going to stop exploring for now, and just guard the bridge I found across the river.
P: okay. Found some more crystals and a geyser to the south of me, not quite halfway down.
R: building a factory, just built a bunker at the top end of the bridge, sitting four guys in it, going to put a missile turret behind it, on the off chance that maybe he already has flyers. I'll probably put another bunker and another turret in here also and just leave some guys sitting there.
P: I'm working on building a factory here.
R: just started a starport and an armory. Building a machine shop add-on to the factory.
P: doing the same...Building a starport
R: I have a comsat station, I'm going to start using it.
P: there's some, about halfway down on the E side here we've got some structures, a wall and some semblance of a building.
R: I'm going to build a, uh, I can't think of the name, a refinery down at the uh new geyser I found so I can get gas quicker.
P: alright
R: which probably means I'll be building another command center down there also.

P: I'm going to take some guys and head down S here see what...Right to the S of me there's a plateau, can't see anything on it right now...There's absolutely nothing on it...I'm building adding on a control tower.

A: stop recording//start recording. Restarting the game.

R: scanning three widths from the bottom, still haven't found anything.

P: to the south of me, where I said those walls are, just below halfway down on the E edge there's a wall surrounding a cross-shaped building and that appears to be all there is. I'm taking some guys down to that structure I found to the south.

R: Putting in a few more supply depots. Not exploring much until the comsat charges.

P: building a science facility.

R: just started building my first wraith...And my command center's complete, I'm going to start rolling out some SCV's so I can get the shorter path to the gas. Oh, I guess there's a siege tank here.

P: ah, well, to the S of that structure I found is another plateau. I'll find a way to get on it, see if there's anything up there.

R: just took out the siege tank, I'm going to run around here and see where it came from.

P: where are you exactly? Approximately?

R: I'm in the, uh, middle one screen width from the W edge.

P: okay, I'm down in the SE corner. As I said there's a cliff I can't get up, there's got to be a way up somewhere...It doesn't look like there's a way up, so basically the SE corner is off-limits for foot traffic.

R: I'm starting to mine the minerals in the center near the top.

P: I'm heading north again just past that uh structure-

R: oh, and I'm getting attacked up there. Just got attacked up at the uh minerals in the center.

P: sending in guys that uh have scouting. Found another building, uh, another cross, x-shaped building in the just NE of the center of the screen of the map. Oop, just encountered some-

R: I just encountered some white forces at the bridge coming across from the blue. I'm going to do a scan in the middle and see what's going on.

P: alrighty, well I just lost those guys.

R: there's a whole bunch of guys around those things in the middle.

P: okay

R: you come back here. Ho, he's got a lot of stuff going on there. I'm sending in some cloaked guys to try and knock out the stuff he's building.

P: I'm adding on a physics lab...Building some wraiths.

R: and he's got a siege tank attacking my base. I'm sending a couple goliaths down to take care of it.

P: blue forces are down in the SE corner. That spot that I couldn't climb up, so stay away from there.

R: man, he's got a whole thing going there now...I just scanned the crystals again; he's got a command center, a bunker, and three air defense batteries and a geyser sucker. And a whole bunch of SCV's and other stuff hanging around.

A: stop recording//okay, start recording. And I'm resuming the game.

R: I tried to send a uh siege tank to uh take out some of his defenses but it didn't work.

P: okay. Soon as I get this supply depot built, I'm going to work on trying to build a battle cruiser. Maybe go on the offensive this time.

R: and now he's coming in from behind.
P: building a battle cruiser...Ah, man...Researching the gun for the battle cruiser.
R: I'm not having any luck breaking through this.
P: upgrading infantry weapons.
R: I'm just sitting here defending myself as he keeps attacking from the S and the E. upgrading armor again, upgrading vehicle weapons
P: I've got one battle cruiser online.
R: if you've got a yamato gun
P: it's not ready yet
R: one shot of that will take out one of those uh, missile turrets in the center, and then I can get my wraiths in there without damage. Without being detected when they're cloaked.
P: okay, there you go, gun is done.
R: he's got three turrets, one's just to the E of the uh command center, last time I checked, I'll check again for you. Oh, now he's got a whole ton of stuff over there. Oh wait a minute, that's my stuff. I forgot to look where I scanned. He's got a turret to the E of where that, uh, refinery, where he put the refinery on the geyser. Usually you can knock those out without getting in range of the turret...I'm going to try and get sneaky and build a missile turret real close to him so he can't send-
P: where is the missile turret in relation to his command center?
R: where's the what?
P: the missile turret you want me to take out in relation to his command center.
R: you can just work down the line, he's got four of them around there. He's got, you'll probably have to start with the one to the E of his, uh, refinery, which is right over the geyser that you found. It's right by the slope, the upslope, the missile turret's right in front of the upslope. Okay, I got my missile turret in place, I'm bringing in the siege tank to try and take out his...Yep...Okay, I got this working over here...Okay, took out one missile battery on my end and now I'm working on his bunker. And I got enough defenses to keep his wraiths away from me. The bunker's about to go down. Put the squeeze on. He's sending stuff over here and I'm taking care of all of it. He just locked down my goliath, and now he's attacking it.
P: oh well, lost my battle cruiser. Flew right into
A: okay, one last screen capture.

Group 4 Trial 1

A: okay, start recording
P: Okay, we ready to jam...Are we supposed to play the game normally?
A: what do you mean normally? Just how you would-
P: With building structures and everything.
A: Yeah. I start everybody off with the same thing, you're all terrans.
But, yeah, just go ahead and play the game
P: I'm situated up here in the upper right hand corner
R: okay, do you have me set as an ally?
A: um, you're both set as, you two are allies.
R: yeah, but the diplomacy wasn't set on.
A: oh, I have it set, it should be set in the script.
P: okay, here it is, I see him now.
A: I'm not an ally, but you two are allies.
P: Yeah, I see him now
R: Yeah, go through the diplomacy menu and set me as an ally.
P: Under mission objectives or options?
R: It's in the left hand side of the screen, the two hands.
A: yeah, but you're not to have shared vision
R: right here
A: no you're set there, not me
P: Okay, cause I just now saw him, I didn't see him at the beginning
A: okay, yeah, shared vision should be off for this one. Under
diplomacy
P: shared vision should be off?
A: yeah
P: we two should be off
A: you're okay
P: okay, I'm fine
A: he needs to turn off on his end. Yeah, I'll set shared vision. I
have it set in the script if that's for the game.
P: there's a set of crystals in the upper middle. Also, a vesper gas
where a mine needs to be built. Here's red.
R: yeah, I've got an expansion right there
P: okay, good. I'm going to send these units to go explore.
R: yeah, I've got units exploring the middle left of the game, of the
board.
P: say that again?
R: I've got units exploring the middle left of the game.
P: okay
R: if you can get the right side.
P: sure...Okay, I've located on the right side about halfway up, another
crystal and vespene gas combination.
R: okay...Okay, I've got a fairly complete sweep of the left hand side
down to the middle and there's no enemies there so
P: okay. I'm building my second refinery halfway down on the right
side...I'm seeing some intermittent ruins.
R: Okay, using the comsat, I've found enemy at the lower left hand
corner of the map.
P: okay.
R: I've found a lake in the exact middle of the map. There's a pond or
a lake, using comsat.
P: blue paused the game
A: stop recording//start recording. Okay, and I'm restarting the game.
R: alt-print screen.

P: print...I've explored the total right hand side with no, uh, nothing encountered

R: yeah, I'm seeing them. They have shock tanks.

P: okay

R: or, not shock tanks, ah, siege tanks.

P: siege tanks.

R: yeah, I've had a skirmish down in the lower left hand.

P: need a hand?

R: nah, I think I'm good...the fact that they have siege tanks is going to make me build my tech a little bit.

P: yep, I've got an engineering bay and I'm already expanding on, working on that. I'm building a control tower now to my starport.

R: okay, I'm under attack in the upper right hand corner there

P: upper right hand corner, I don't see any of that. Is your village under attack do you mean? In the middle?

R: yeah

P: okay, I'll send some troops over to help you out...I'm sending some troops to augment yours. Are you still under attack?

R: no they're building a base in the upper right hand corner. They seem to have, they seem to have knocked out all my SCV's.

P: okay, well I'm attacking them.

R: Yeah, I see their siege tank

P: yeah, I'm taking it out. Siege tank's gone. Working on their command center now. Good. I think things are about going to be done there. I'm developing cloaking ability for my wraiths...Oh good, they're done there. I'm going to uh, they're trying to attack me again. I think it would be smart to build a bunker there. And maybe some turrets...I'm sending an SCV to help build turrets and things in the middle there.

R: the turrets seems to be done

P: how about a bunker? I'll build a bunker if we need it

R: just got one in. I'm just awaiting more minerals so I can build tanks...Okay, I see minerals in the lower right hand corner

P: lower right hand corner?

R: yeah

P: I had a hard time getting in there, there's a mountain range or something in the way.

R: yeah, I found it with my comsat.

P: Okay. See if I can't get in there...I'm building a bunker in that middle site, I'm building to the right, so that we have the left and right flank taken care of.

R: yeah, I see your platoon in the lower right. Below you there, is the blue base.

P: I'm purple.

R: okay, if you continue going east where that platoon is, you'll find the other crystal.

P: oh, I can't get in this little mountain range so far. Okay, got my bunker in, putting my troops in there. I'm putting my missile turret in...I'm building five wraiths with cloaking ability and improved speed right now.

R: yeah, so far, I don't have the ability to make wraiths.

P: when I heard there were tanks, I started doing the tech tree...Once I have wraiths with cloaking ability, I'll fly over there and start knocking them out. Okay, I've got a bunker surrounded by two missile towers on the right, in that upper middle there. My first wraith is here, I'm waiting on my four others.

R: yeah, I've got a tank and I'm building siege ability. Siege ability is done.

P: great

A: okay, turn off your monitors. Stop recording//start recording, and I am resuming the game.

R: okay if you have wraith ability, you might want to go ahead and build a dropship. Simply because that way you can move your troops around, you can get to those crystals over there.

P: yeah, I don't think, the only thing is, I don't think we're going to get to that point, as far as needing it...Okay, I've got two wraiths.

R: okay, I just saw wraiths in the white base

P: okay

R: so they have wraith capability

P: okay, I've upgraded my wraith [] armor, and I'm upgrading their weapons now...Okay, I let myself get behind on building supply depots. I'm just about caught back up now.

R: yeah, I haven't been really paying attention to that, I probably should.

P: yeah, I recommend building a couple while your waiting around. I've got four wraiths ready to go, and my fifth's almost done, and I've got eight firebats I'm ready to send in with them.

R: yeah, there's a white expansion towards the middle south, where those crystals were I was telling you about.

P: yep, yep

R: your platoon, yeah it looks like your platoon is just about to engage.

P: yeah, I'm engaging, taking out the missile turret now. Missile turret's gone. Trying to take out the turrets, so I can send my wraiths in. Okay. It took out, pretty much took out everybody there, so I'm going to send my wraiths in now and try to finish the job...Let's see if I can finish the job on them. I'm going to cloak when I get closer.

R: yeah, you shouldn't have much resistance there.

P: yeah, I don't think so, unless they send over something that can detect my cloaking. I just cloaked up. I'm gonna go in and take them out. Oop, there's a turret, there's a turret I didn't see.

R: yeah, there's one in the, just to the, uh, NW of the base there.

P: yeah, I see it. I'm gonna take it out before it's built...Well, they pretty much took out all my wraiths unfortunately, 'cause there was that turret I didn't see. Building five more. Sending in, sending in more infantry.

R: yeah, I'm getting ready to uh, I'm building some ground forces. I'm going to do a push into the white base.

P: okay, I'm going to take out this middle support structure with my ground troops over here. If I can. I'll take out the turrets, if I can. Attacking the northern turret...The other turret's taken out...Okay, I took out the northern turret but died a painful death after that...I'm gonna try to go in there and take out the turret again.

R: Okay, I went in, and they just seem to be really irritated. Not really dying that much.

P: okay. I've taken out two turrets, now I'm gonna attempt to go in with my two wraiths and cause some damage.

R: okay, I haven't sacrificed my toehold, but I did lose a few tanks there.

P: another turret down to the S, I'm going to have to take out.

A: okay, if everyone can do one last print screen.

Group 4 Trial 2

A: start recording
P: we've got comms, so we're good to go there. Okay, I'm up in the upper left, I can see you in the lower right.
R: oh yeah, this is much better.
P: okay, I'm starting to explore down the lower left hand side, so if you want to start going up the upper right hand side.
R: yeah, I'm already doing it.
P: okay.
R: okay...I see crystals.
P: yep, I get to see your vision on. I can see that...I've got crystals just discovered down, if you look on your map, you can see them on the left hand side...Okay, I've encountered some water.
R: for purposes of exploring, you might want to split up your platoon into two groups
P: yeah, I've got another group that I haven't actually started moving yet, thanks. I'm moving them out.
R: okay, I've found the enemy.
P: I should say you have. Should we try an early attack on them?
R: I'm gonna try to draw some people out and then kill them.
P: okay, I'm working my way over there too. You can see me coming around. I think we have overwhelming force here, if you want to take them out, I think we can. I've got a good twelve armies here. Coming down-
R: I want you to-
P: okay, I'm going to update my town here in a minute and then I'll come back to where you down there...Okay, I'm ready to go in if you are. Ready?
R: yep
P: let's go, let's go get 'em. Recommend taking out all the missile turrets, if there's any, and then soldiers...I'll go over here and get the SCV's.
R: take out the buildings first, that'll prevent them from rebuilding their forces.
P: well without SCV's, they can't get more resources.
R: true
P: and they're easy to kill, like killing the peasants in Warcraft™...Okay, taking out the barracks next, taking out the barracks down here.
R: okay, my second group of marines is coming down.
P: okay...Barracks is gone.
R: this may be a short game.
P: unless there's another encampment up there. I'm attacking the command center.
R: okay, I see the blue army in the upper right hand corner
P: yeah
R: with the uh
P: see 'em...Okay, there's another barracks I need to take out over here. I'm taking out the barracks on the right hand side of the encampment. The command center is on fire and burning, it's red.
R: Terran structures do burn, so once they start to burn, you don't have to shoot them so much
P: okay, just taking out the bunker...Okay, got 'em down here, clearing them out. Not a lot of room for the enemy forces to be elsewhere.
R: I'm gonna continue exploring this southern part

P: okay, I'm gonna move my way up N then...I'm moving straight up the middle...Found a big yield of crystal here in the upper middle...Not seeing any other enemy.

R: yeah, I think they're destroyed, actually.

P: okay, probably make it easy.

A: okay, turn your monitors off and do the map.

R: if there aren't

A: just keep exploring the environment. You mean if there's no, if you kill off the computer? Yeah, just keep exploring the environment. Stop recording//start recording. Resuming the game.

R: okay, I've got my first wraith done.

P: great. I'm just building on. I'm doing a broad-based tech development, researching siege tank right now...I'm just now building a starport, I'm mining crystals in two different locations, I'm only mining gas in one location, back at my base. It's not even close to going out...Building a science facility.

R: yeah, I just built one...It's hard to justify building units when there's no enemy to defeat.

P: right.

R: Okay, I've got my covert ops unit.

P: cool. I'm researching EMP, I think...I went ahead and built a second refinery, speed the oil up a little bit.

R: I've got a physics lab, and a nuclear silo building.

P: cool. I'm researching irradiate.

A: okay, update your maps. Stop recording//start recording. When I restart it, do the screen capture again. Resuming the game.

P: I'm researching titan reactor.

R: yeah, I've got yamamoto gun coming up.

P: cool

R: okay, I have nuclear missile ready

P: fire at the observer. A little nuclear strike never hurt anyone...Looks like the observer's building up her town too, a little bit.

R: yeah, but no turrets. You know, I got a ghost, and I could just launch.

P: I'm building a physics lab...I'm building the yamato gun now...I've never built a science vessel, what do those do?

R: um, they're good for observing. They can observe cloaked, uh, cloaked vehicles or personnel.

P: yeah, I'm building a battle cruiser, just to say I did it...Wow, she's firing at you.

R: okay, she just got my ghost and my, uh, yeah all my everything just got killed.

P: yeah I saw that whole battle going on.

R: yeah, I was hoping to sneak in a ghost and a bunch of marines and, uh, she was a dagger aimed at the heart of Dutchland. Yeah, she also has a turret on that lower [south?] hand side there

P: okay, my battle cruiser just got finished. I particularly like the voice. What's the yamato gun do?

R: um, it has the force of a nuclear blast. You can basically use it to take out turrets, does pretty significant damage to buildings.

P: mm hmm

R: it's pretty nice

P: is that what the energy goes to?

R: yeah. Usually you have like one or two shots.

P: yeah, I'm upgrading my energy level right now. It takes a while to build up anyway. They're slow as h***.

A: okay, one last print screen.

P: okay

A: okay, end mission, surrender. Stop recording.

Group 4 Trial 3

A: okay, start recording.
P: you online? You online?
R: yeah.
P: here we go. Okay, I'm in the center left of the vertical scale, center going up.
R: yeah, I'm in the, uh, kinda like the middle E
P: oh, that's a good place to be. No peace in the middle E.
R: okay, I'm exploring N and S of me.
P: I'm going N and W going up the axis, I found some more crystals in the corner.
R: and where'd you say you were?
P: um, on the W edge, middle, about the middle.
R: okay...There seems to be a body of water in the middle.
P: okay, I'm just going down the left axis now. found another, uh, gas mine about three quarters of the way down on the left edge.
R: yeah, crystals in the SE corner. And in the, uh, NE corner as well. No, uh, sign of white forces, though.
P: huh...I'm going along the top edge also. We're about middle top right now, 16, well, 12 armies, soldiers, working our way across the top. Oh, found the enemy, they're attacking
R: is it on the upper side?
P: upper, upper, middle, middle top
R: okay, I have some forces in the area.
P: okay, I'll kill as many as I can.
R: okay, I've made contact with the enemy forces
P: okay. Took out all the enemies.
R: okay, I see you.
P: okay, I'm just attacking the SCV's right now...okay, I'm gonna attack the barracks over here.
R: yeah, I just got my forces just attacking whatever.
P: yeah.
R: yeah, their command center seems to be pretty
P: figured I'd just attack the barracks to prevent them trickling forces in on us. Okay, I found a bridge about, uh, well, it's on the bottom quadrant, left hand, toward the left hand side.
R: okay, I'm building an expansion on those, uh, crystals
P: okay
R: lower right hand side
P: okay.
R and P start to talk at same time, then stop
P: Currently building a starport.
R: okay, I see your, uh, troops on the
P: yep, see you down there...Okay, I'm building my first wraith.
R: I've been concentrating mostly on expansion
P: yeah, that's probably wise.
R: okay, I see the blue base in the lower left hand corner.
P: lower left hand, huh? Hard to get to unless you have a drop ship, or something that flies.
A: stop recording//start recording. If you can get a screen capture when I restart. Now resuming the game
P: print screen, done.
R: oh, there's a white building left. Not for long.
P: that was an incredible oversight on our part. Wow, blue just shot off my exploratory wraith. Thanks a lot, blue.
R: did she?

P: yeah, isn't that evil?

R: oh, she's toast.

P: she has the nerve to want to have proprietary airspace or something, I don't know.

R: so that's where you are.

P: yep.

R: you know about that- ah!

P: what's that?

R: I, uh, walked past blue forces and got attacked.

P: [laughs] yeah, that happened to me once - once...Well, I'm happy to report I have a battle operational battle cruiser.

R: I'm just building my first science facility here.

P: I like the voice of the battle cruiser, it's kind of cool.

R: yeah, it makes more sense in Brood War™.

P: I'm building a science vessel, because I've never built one. Instead of make it so, he says make it happen. Pretty funny...The science vessel captain sounds like Mr. Burns on The Simpsons: Excellent! Who's the roly-poly man in sector G?

R: it's actually a fact that the firebats sound like [Deathman?]: "slammin'".

P: oh yeah, sorry.

R: lost direction of the problem.

A: you can turn off your monitors. Oh wait! You know what? Work on your questionnaire first, 'cause I didn't take photos. I forgot. Stop recording//start recording. Remember to do the alt-print screen

P: alright

A: and resuming the game

P: printed...How can the, uh, battle cruisers heal themselves?

R: the battle cruisers?

P: yeah, how can they heal themselves? They do it automatically?

R: yeah

P: he's not.

R: what'd you get hit with?

P: I don't know, it says health is 431 out of 500, and he's not healing

R: I'm pretty sure that they heal themselves.

P: I know. I can send an SCV to heal him.

R: no, it's supposed to be automatic.

P: yeah, well it's not. The SCV's working though.

R: okay, I have one nuclear missile, also building up a bunch of forces, uh, near the bridge.

P: I've got three battle cruisers.

R: well, if you've already got three battle cruisers, then, if you use them against the, uh, the turrets

P: mm hmm

R: then you can land, you can use, bring your wraiths in and, uh, they can be cloaked.

P: yeah. Yep, knocked a turret out. That was kind of cool.

R: okay, I'm gonna try to land and then

P: I took one turret out, that's it...Battle cruisers take forever to charge up.

R: yeah- aah!

A: you guys can get one last print screen.

P: yep.

A: okay, stop recording.

Group 4 Trial 4

A: start recording. Go ahead and start the game whenever.
P: comm. Check
R: ready
P: okay, sounds good. okay, I'm in the lower left hand corner, I can see you in the upper left hand corner...I'm exploring to the right, away from you, along the bottom edge.
R: yeah, I'm going to the right, and I'm also sending a team S of me.
P: okay, I'll meet you on [].
R: okay, I suppose you see those crystals.
P: yeah, I see them there. Found an extra gas mine down there by me. I'm kinda like on a little island down, or, not island, but an isolated area, just [] bridge...Okay, I see your forces here in the middle. I'm going to head east. I see you're heading east too. I think we can [] if we keep going this way...I'm gonna check on my town here real quick.
R: what's that
P: I don't know, it's frozen again. It glitched for a minute, but it's back
A: okay
R: yeah, there's like mountains and stuff here.
P: okay...I'm here to your left, to the W, coming up.
R: yeah, I'm gonna go take a snapshot from the comm. Station. There they are.
P: on the upper right?
R: yeah
P: do we have enough to take them?
R: uh, yeah, they don't look like they've built up too much.
P: let's go get 'em. If you want to wait on me, we can go ahead and mass, that's what we probably should do. I'm coming around the horn here.
R: I'm amassing my forces.
P?: Okay, let's go.
R: Okay, I wasn't too useful there, but
P: what's that?
R: well, I tried to take out their barracks, but it didn't work.
P: I've still got three guys. Which one's their barracks, here? Terran barracks.
R: it's, uh, just, that was a different barracks.
P: oh, well I got two guys now.
R: okay, you might want to go ahead and go up to the, oh, never mind, it's already been rebuilt.
P: yeah
R: you might want to retreat that guy.
P: I'm dead. My guys up there are dead. Hmm. Interesting. Tougher to wipe out this time.
R: yeah, this is gonna be a different game.
P: terran academy.
R: okay, I've built a command post and a, uh, bunker near the crystals right to the east of the white base.
P: yeah, I see you there. I'm building a starport right now and armory
A: stop recording//start recording
R: and print screen
A: yeah, and resuming the game
P: print the screen, got it. Okay, well it looks like we're gonna have to have some sort of strategy here. I'm building an armory now.

R: yeah, I'm kind of low on minerals right now so. I've got an engineering bay.

P: okay, I've got an engineering bay, I've almost finished upgrading my weapons. I've got a, uh, I've actually got a starport too. And I'm building a control tower for it now.

R: do you have a factory?

P: um, believe so. I kinda forget. Yeah, I've got a factory and I've got the machine shop extension. So I'm building a control tower.

R: I'm just now building my factory

P: my weapons have been upgraded...Okay, I'm researching cloaking ability, and I'm building my, building my first wraith. Building a science facility.

R: yeah, they seem to be, uh, pretty much limited. I don't think they can come up, uh. Let me get this corner with the radar. Okay, yeah they seem to be pretty much limited to that corner.

P: yeah...Upgrading my infantry's armor.

R: okay, I'm building the machine shop.

P: I've got my first wraith done.

R: okay, you've got white forces coming at you right now.

P: yep, I see them up there, thanks.

R: looks like they're all ground troops though.

P: yep

R: might want to pull back your infantry and then hit them in mass.

P: I got my wraith and I'm gonna cloak him up...Yeah, they're nailing me now.

R: oh man, they are really getting you.

P: yes they are. He came at me with like 12. So-

R: yeah, move your firebats over there.

P: I've only got two, but I'm getting ready to move them over...Where did my wraith go? There he is, not doing anything.

R: okay, my three guys just got hit. Looks like your guys are, uh,

P: I'm out of the woods now. That'll teach me not to keep any infantry around.

R: yeah, I'm getting hit upstairs too.

P: interesting. I'm gonna have to, uh, build a defensive bunker up there I think. They took out my refinery.

R: yeah, they're hitting my- okay. I'm gonna lift up my command center and send it else, send it further over here.

P: okay

R: expansion just isn't working.

P: okay

R: Yeah, they're definitely advancing their [tech? tank?]

P: yeah, I'm building up, I've got two wraiths. I've got something of a little army.

R: up near the top, near where their minerals are?

P: yeah

R: I can probably sneak a couple of tanks into there, and take out a bunch of their SCV's.

P: think so?

R: yeah, let me get one more tank up. Have to harvest some minerals first. Okay, there we go...Yeah, I love siege mode in tanks.

A: stop recording//start recording and when I start it up again

P: print screen

A: yeah, okay resuming game

P: print screen done.

R: same here...Oh man, they're already up there.

P: you got a siege tank going though, huh?

R: yeah, but they have wraiths.
 P: they have what? Wraiths?
 R: they have wraiths
 P: I've got two myself, should I come up and give you a hand?
 R: um, if they keep going past my turret, then yes.
 P: okay, give me a yell if you need it.
 R: okay yeah, I might.
 P: coming up. I've got cloaking ability too, so, no worries.
 R: yeah, they do too, but that's not gonna help against a turret.
 P: I'm up, I'm up here beside your turret now, with your two tanks.
 R: yeah, they're gone now
 P: okay
 R: the turret took them out.
 P: so I got you have wraith support if you want to go in again. I'll build some more.
 R: uh, yeah, let me get my, uh, SCV up here repairing the turret.
 P: I'm building two more wraiths.
 R: I'm gonna build a couple goliaths too.
 P: I've got a couple.
 R: okay, yeah, actually if you could get them up here.
 P: the goliaths?
 R: yeah
 P: okay, coming.
 R: 'cause they also have anti-aircraft capability, so
 P: okay, they're on the way...I see your goliath walking across, I'm on my way up there myself...Sending another wraith up, that's a total of 3 wraiths...Okay, and I got another wraith that just got completed.
 R: okay, what we want to do is, uh,
 P: what builds the goliaths? Armories?
 R: uh, no, your factories. But you have to have an armory first. What we want to do is do a bound and overwatch.
 P: a what?
 R: a bound and overwatch. It's where one unit covers the other unit while the other, while the first unit moves.
 P: okay, I've got four wraiths right now.
 R: okay, if you could get your ground forces
 P: yep
 R: over to where my tanks are?
 P: okay, they're on the way. Where do you want the wraiths?
 R: the wraiths behind them
 P: okay
 R: and I'm gonna get this, uh, gonna get these tanks down, and I'm gonna get this SCV to build a turret real quick, so we can see things...Get my ground troops down there. What we want to do is put the tanks up there, get them in siege mode and then let them just start nuking things. Okay, the turret's almost made. Okay, it's complete
 P: okay. Those wraiths move in?
 R: yeah
 P: I'm getting all hit their goliath with my wraiths.
 R: okay, my tanks just got taken out.
 P: okay. Hitting, hitting the goliaths with my wraiths.
 R: d***. Send your ground forces in. I was hoping we could get over at the, uh. Ah, nah, they have too many tanks. Retreat.
 P: retreating. I lost all my wraiths.
 R: yeah, I'm building troops to replace those.

P: yep. I've got, uh, two more goliaths, I've got three goliaths, four firebats, and an infantry-

R: yeah

P: ready to go

R: you might want to move your ground forces closer to this, uh, closer to the turret so that you can detect any cloaked wraiths coming up on you.

P: okay.

R: I think we took out some of their units, but we didn't really do any damage to any of their structures.

P: yeah, that's exactly right.

R: they've got armories...They've got two starports too.

P: great. They're getting pretty massive.

R: yeah...I'm beginning to think I should have built a second factory a long time ago. But not enough minerals, okay.

P: I've got a siege tank, three goliaths, four firebats, uh, two wraiths.

R: you might want to keep them near your base right now.

P: I could probably get a battle cruiser if you want, if you think it will do any good

R: uh, probably not in this situation.

P: nuclear launch detected.

R: oh, great. Do you have enough, uh- Dude! Build more turrets around your base.

P: okay

R: if a nuclear launch is detected then that probably means that a, uh, a ghost got in. okay, well, yeah, he nuked the upper turret.

P: oh, the whole way up there?

R: yeah,

P: yeah.

A: okay, if you can do one last print screen?

Group 5 Trial 1

A: now recording, you can go ahead and start the game. Yeah.
P: I'm down in the lower right. The lower left.
R: I'm upper left. You're lower left?
P: yeah.
R: okay.
P: I'm pretty much going to sit still for a little while and build up some troops here.
R: okay. I've got the SCV's doing some gathering of the gas and minerals, and kind of putting some patrols out just to set up some perimeter security...Also going for the increased weapons range on the academy.
P: yeah, I did that too. I'm gonna build a couple of bunkers for defense and build up a unit, a couple units to go out.
R: okay
P: alright, there's some water in the middle. I think along like a, maybe I don't know, an island or not.
R: okay. Things look clear in the, uh, the upper left, the whole corner there. Looks clear so far.
P: yeah, I got water all around me, not all around me, but a lot.
R: okay. You said you're lower left?
P: yeah, I'm in the lower left corner and there's a bunch of water in the middle. I've got, I don't know, about an eighth of the map unloaded...Alright, I'm going up a plateau on the far left hand side.
R: we might want to, can you enumerate the sections? Start from lower left or something? Call your corner like "one one".
P: okay, coordinate grid type thing?
R: yeah, yeah, just so we sorta, sorta have an idea what, when we talk about a certain area
P: ok
R: being clear.
P: yeah
R: um, I don't know, is there about six squares up so to speak, or eight? How fine do you want to kind of divide the space? We're sort of just estimating, uh.
P: yeah, but on the map in the lower left corner you can tell like what fraction of the total area you've got uncovered so far.
R: okay
P: so, like right now, I'm looking at half of it left to right, and about a third of it top to bottom
R: okay
P: and there's a pretty large group of water. Uh, [working?] around.
R: I'm bringing a group S, um, so I've come down the S about half way now. It's all been clear so far. Looks like I might be now right at the edge of a, um, yeah almost halfway down, looks like I might be at the edge of a ridge...Got a mineral deposit about halfway, maybe about 45% of the way down, just inside the left edge
P: okay
R: if we need it...Okay, I'm running into a ridge about halfway across the top. Um, a little plateau.
P: okay
R: there's a ramp, I was able to go up it.
P: there's one that runs up the left hand side, and I'm building some defenses at a little chokepoint here, across the uh, across a little gap, just so I don't get attacked through there.

R: got some old, kinda ruins like area across, about halfway across the top. Like a ruins or something.

P: alright, you said you're up in the upper right, is that right?

R: upper left.

P: you're upper left. Okay, I'm lower left, so they must be over in the middle. I'm gonna take a group up and see if I can join with you.

R: okay, yeah, I've got one team that's almost all the way across the top, he's about 80% of the way across. It's been clear so far. Again, that one plateau-

P: I think I see those [] you're talking about.

R: oh again, it's way up upper

P: well, there's a set, there's a set down on the lower side also

R: looks like there's another, yeah another big mineral deposit toward the top

P: okay

R: I've seen several of those.

P: I think I should put my defenses between me and you instead of me and the enemy, but I don't know where they are.

R: yeah, I haven't run into anything yet...I've got one team, the team that you're trying to

P: okay, you're red, right?

R: yeah

P: okay, alright, I just saw some of your guys, yeah there we are.

R: okay, where're you at?

P: I'm purple

R: oh, I see you, yeah. You just joined up with one of my patrols that are south of my unit.

P: okay

R: I've actually got another team a couple grids below you.

P: okay. Alright. What's to the right, to the west, to the east of you?

R: okay, you're almost, you're almost at the very top now

P: yeah, I am.

R: yeah, to the east, I've roamed across there. I've got a team almost all the way to the right hand corner at the top.

P: alright

R: okay

A: turn off your monitors. Stop recording//start recording and I'm now resuming the game

P: okay

R: where you gonna go with your team?

P: uh, they're moving back south again. I, uh, just built a factory, I'm gonna start working on some more tech, uh, technology type things.

R: okay. Yeah, I had to build a couple supply depots to be able-

P: I want to see that mineral group-

R: get going again.

P: alright. so is there any way to-

R: Yeah, I see your guys.

P: is there any way to get over to the right hand side of the map so far? Or is it all?

R: at the top, I've been able to go all, almost all the way across the top.

P: okay, there's a water barrier to the south

R: okay, let me see if I can make it all the way to the corner. I'm headed there now.

P: well, we may not necessarily want to get too far.

R: yeah, there is a ridge all along the top. I'm up on the top of the ridge at the moment.

P: alright, I'm moving, I'm dead center of the map right now, and I think that continues over, but I only have 5 guys with me so I'm gonna wait.

R: okay. I've just, uh, I've gone all the way to the upper right hand corner, got a team, so it was all clear. I've got a team, that team's coming back now towards the center at the top. I'm gonna be heading down a little bit off of the ridge.

P: okay, I'm build, I've just, I'm in the process of building a starport so I can get some planes-

R: okay

P: some air support.

R: yeah, I was thinking about doing that also...Got an attack going here.

P: where?

R: not sure yet. Actually, I got the word, but I haven't located where the attack is. Still don't know.

P: something should be blinking on your map.

R: oh there it is, yeah, it's the upper right.

P: okay

R: got, uh, it looks like one of those siege tanks-

P: uh huh

R: I think they're called.

P: yeah

R: trying to get my force out of there. Took a pretty good beating. Um, there's a starport.

P: I just saw, I just see him right there.

R: okay. Got some forces up there in the

P: there's a tank right in the middle, I'm engaged with him.

R: oh, in the middle?

P: yeah, north of the middle part

R: yeah, that's not where I was. I was way up-

P: yeah, he just took my force out.

R: oh, he brought, he drove down

P: yeah

R: okay, got you.

P: that wasn't good. That was actually pretty ugly.

R: yeah, I got one guy out of there.

P: yeah, there's two tanks in the center, just a little bit to the north of the center part.

R: okay

P: pretty much straight east from that mineral deposit, there's at least two tanks and some marines. I got most of them, but not all of them.

R: okay, there's a uh-

P: I didn't get the tanks at all.

R: up there in the upper right about one level down they're, actually, they're starting to build the, uh, part of the starport, what do you call it? You know, the added structure on the starport.

P: yeah. Control tower, you mean?

R: yeah

P: alright.

R: which means they'll be, uh, they can do, um, dropships then-

P: yeah

R: if they have the capabilities.

P: alright, I got an airplane now. Just built a wraith, so I can go look around a little bit.

R: okay, I've got, I've still got about 6 guys in the middle, kind of mid-left-

P: I can see them.

R: I see your wraith now.

P: yeah, I just flew right over them.

R: yeah, so if we wanted to do any kind of, uh.

P: I'll sit in there for a little while.

R: okay, if we wanted to do some kind of concerted effort, I can bring some more guys down there. Now, are the tanks off to the right of that?

P: yeah, they're pretty much straight to the right of that.

R: okay

P: or they were, they may have been moving at the time

R: right, right.

P: um

R: looks like there's kind of a wall just up to the right of us a little ways. Two screens width.

P: alright, I've got a group coming up

R: yeah, I've got some more coming down there too.

P: I've got a few guys held back in reserve inside some bunkers near my headquarters and stuff.

R: I've got some more marines coming down to join you. Should be there in a second.

P: yeah, I got my ass handed to me in that last fight, so I'm gonna wait a little while.

R: okay, got a pretty good force [] up there.

P: oops.

R: we can build some pretty powerful stuff here.

P: I'm getting ready to do researching cloaking for that wraith. I don't know if you'll be able to see him or not, but if he disappears that's gonna be why

R: okay

P: I'm gonna cloak him, and then move him over a little bit.

R: yeah, you're well ahead of me in terms of building up forces.

P: the secret is a lot of SCV's. I've got like, I don't know, 10 to 12 of those-

R: okay

P: harvesting stuff left and right.

R: here comes another wraith to join you.

P: alright, I got a second wraith flying around the south just to look around a little bit.

R: okay.

P: there's a pretty big body of water in the south that separates the two sides. Ohh, just found, wait a minute, that's blue. What are you doing shooting me?

R: where'd you find blue?

P: blue's down in the bottom right hand side. She just shot at my wraith.

R: there's a, uh, large, uh, walled structure, uh, about 30% percent of the way across and 10% down.

P: okay

R: um, very large.

P: I just cloaked and I'm gonna move over a little bit and see if I can, if those guys left or not.

R: okay

P: I don't see anything right now.

R: I've got a patrol headed that way too.

P: oh, just saw a tower.
 R: just saw what?
 P: there's a tower down there.
 R: okay
 P: He sees me, so I went away.
 R: yeah, do you see that large, uh?
 P: that central part's open, and I just saw a group-
 R: well, there's something-
 P: there's your patrol, that's probably me right there.
 R: oh, that was your wraith went by me?
 P: yeah, you got a patrol right there in the middle?
 R: yeah
 P: yeah, straight south of those guys there's a tower. Uh, is the, is the part to the right of here clear?
 R: a little ways to the right is where we ran into the, the uh, their control center.
 P: oh, okay
 R: the starport is over there to the right.
 P: alright
 R: um, just up a little bit to the right. Walking around the structure here, uh, looks like it's kind of rectangular.
 A: stop recording//start recording
 P: comm check
 A: I am resuming the game.
 P: okay, I just did screen print, can you hear me?
 R: yes
 P: okay
 R: you got me?
 P: yes. I'm assuming now that white is in the center right hand portion of the screen, and so I vote we go over there and kick his butt in the last nine minutes.
 R: uh, yeah, there's still a starport, yeah, the starport's over there. So, are we ready to launch any kind of attack with that group?
 P: yeah, I'm going to be in just a minute, I am, uh.
 R: I still have this one little team that's kind of roaming out there.
 P: alright, I just set my barracks and have sent them out there. You know how to group units, right, with the hot keys?
 R: uh, I just usually will, uh, circle around them all.
 P: oh, okay.
 R: yeah, I do a drag and
 P: yeah
 R: yeah, so you want to lead the way?
 P: I'm sorry, say again.
 R: do you want to lead the way on-
 P: uh, yeah, hold on just a sec-
 R: on the attack, or what?
 P: while I bring my last tank up there.
 R: okay. Yeah, we'll have a link up with another little group that's been looking at those, uh, ruins and stuff just ahead of us...So, I got one team that's almost right in the middle of the area right now. So, just to the right of where we are, are the large forces.
 P: alright. Alright, I'm starting to move over. You ready to go? I see your guys right there. There's a tower attacking me.
 R: okay, are you to the right of me now?
 P: yeah, I'm clustered in between your two groups. Move south a little bit, you'll see them.

R: oh, I see them. Okay. Good-sized force. Okay, where do you want to go?

P: alright, I'm gonna move on over a little bit. There's a tower, see that plateau right there?

R: yes

P: to the right of where, there's a tower on there that keeps shooting all the guys.

R: I haven't seen any, I haven't seen what's doing the shooting.

P: yeah, it's a tower, right on that, right on the plateau.

R: I don't see any tower on the plateau. Is it south of us?

P: it's, it's, uh, SE of where your units are.

R: okay, that's why I haven't seen it.

P: yeah, see where your marines are, right there underneath my tank?

R: yeah

P: there's a tower up on that plateau right there.

R: okay. You want to send the wraiths in after there?

P: uh, no. they'll get shot up.

R: okay. Just want to bypass it?

P: yeah, probably be the best thing to do...Alright, I'm just going to gradually leapfrog all my units over to the right hand side a little bit more.

R: okay. Over to the right? Do you want me to go around the other side of that, uh, plateau that we're at, or should I just come with you?

P: well, I'm getting attacked now here. There's a, uh

R: okay, coming in to, coming in to join you.

P: there's a wraith.

R: oh, okay, we're shooting at that tower.

P: yeah, and their wraiths are cloaked. I've got a science vessel coming.

R: we've got the, uh, tank down on the left hand side of that plateau. There, we just shot up, we just beat the tank.

P: yeah, I just lost-

R: and the

P: I just lost a tank.

R: okay. Well there's a uh, gosh, I don't know what that thing is. Oh, that's yours. What is that?

P: there's a-

R: okay, their, uh, refinery is up on that plateau.

P: yeah, I just saw, okay, now I got a science vessel over here now, so. They got a bunch of cloaked wraiths-

R: ah

P: that were causing problems.

R: I've got a couple more wraiths coming down.

P: alright. okay, where's your, where'd your units go?

R: I've got a unit just north of the, uh, plateau where their refinery and that, uh, that-

P: alright

R: I've got a couple wraiths, uh, not far from that also-

P: alright

R: and another force of marines. I, uh, I'm thinking about just making an attack right up onto that plateau, taking that refinery-

P: alright, there's a buttload of tanks over here on the, uh, far right. I'm getting destroyed.

R: you want me to come over there?

P: uh, yeah, I just got my force pretty much wiped out.

R: okay

P: let me get out of here. Uh,

R: yeah, we've got, uh, okay, I've found their command post. Got uh, got command post, refinery, got everything going up here.

P: alright, yeah my forces got wiped out.

R: I got an attack going on their, uh, command post and stuff. I see their siege tank.

P: yeah, I think, uh, I see a, I see a command post, I see a bunch of towers.

P: I see their marines, yeah. The whole kit and caboodle is right there.

P: yeah, it's right in the center just, offset to the right from the center.

R: trying to withdraw, but a little late. Okay. So now we know where they are...So I've still got a, uh, I've got a force of marines coming down there, uh, but I don't think I've got enough to take on what they've got up on that plateau.

P: no, I don't either. I've, uh, I've built up a new force-

R: okay

P: in there also. I don't know if we're going to get a chance for another attack or not.

R: maybe not. I've reached a, uh, gas limit, unfortunately. And don't see any other vespene deposits.

P: oh, there's one down to the south, uh, okay. I see that group of marines right there. See my group joining up on yours?

R: yeah, I'm bringing down some of my-

P: is there, oh, there's a ramp right there!

R: yeah, there's a ramp right there. It takes us right into their, uh-

P: right to the command post.

R: right to the command post.

P: yeah.

R: so what do you think?

P: well, we don't-

R: we have time for one more assault.

P: we only have 26 seconds, I'm going in.

R: let's go for it. There's the big one.

P: yeah. I'll get on up there and get out of your way.

A: okay, do one last screen save, alt-print screen.

R: I got a feeling those tanks are pretty powerful.

P: yeah, it's uh

R: that was quick work.

A: okay, stop recording.

Group 5 Trial 2

A: start recording. Yeah, just hit okay. You're the only one that has an okay button, so you can just start it.

P: okay.

R: so what did we learn by that experience. Alright, I am now in the bottom right.

P: yeah, and

R: you're upper left, I can see where your force-

P: oh, okay.

R: this time they gave us a little shared awareness, maybe?

P: yeah, I can see your group too.

R: got a little bit of a problem here, I don't have any uh

P: []

R: no, I got them. Couldn't find my refinery right off.

P: alright, good, I got a, uh, nice little natural defense right there on the top.

R: okay, I see it.

P: got another group of minerals too.

R: got a, uh, big walled area down, immediately to the left of my base.

P: yeah, I see that one too.

R: I've run into a, uh, ridge to the N of me.

P: okay. There's something near the center also. See that group I got walking around the middle?

R: got it

P: there's another plateau right there too.

R: okay

P: then, S as far as halfway down, on the edge, I haven't seen anything.

R: a big, uh

P: alright, there's where she is. I got, I built a sensor array on the, uh

R: okay.

P: I just found another mineral-

R: yeah, I see where, so the, uh. Yeah, white might be between us then.

P: either that, or down in the SW corner.

R: I got a team heading W, to see if they run into something out there, just patrolling...A lot of rock formations and stuff.

P: well, there's your answer about the middle

R: okay, pretty clear, huh?

P: I just came across some water. On the S edge, where that group of mine is?

R: okay...More mineral deposits down here, see that?

P: yep. Looks like by default they're in the lower right, er, lower left, but we won't know for sure for another few minutes.

R: yeah.

P: of course, they could still be in the upper left

R: I can't get by the rock formation down at the very bottom center there. One of the teams got around and is [].

P: there they are

R: ah, got it. Okay, I will pull back these guys a bit...I see your, uh, team coming down.

P: yeah, there's a, see that water on the edge there? I'm just moving into, there's a, there's some water-

R: okay, well, you've got a team down in the south

P: right

R: yeah, right along the water's edge there. I've got that group just S of you there. Um, got what, about 15 marines down there?

P: yeah, I just wanted to see if we need to build to close off the land route at least. I'm gonna build some, uh, towers along the S edge of this water, or the N edge of the water I guess, so they don't, uh, fly up over us...I'm under attack.

R: I see that.

P: yeah

R: oh, I see you finished them off.

P: yeah...We ought to throw up a couple of bunkers along here to keep, uh, keep that area at least from land attack.

R: want me to send an SCV over there?

P: I've got one, I've got one coming down, you can send one too if you'd like.

R: okay, sure.

P: but if we can bottle them down in that lower area?

R: okay

P: then we could-

R: so you just want to build along there where we've got our forces?

P: yeah, you know, wherever there's a narrow little neck area, if we could build a little network of bunkers and, uh

R: okay. Got a guy headed that way.

P: I think that's pretty much a narrow spot right there. I'm gonna start from the water and build south.

R: okay. I've got one that's starting right, kind of in the middle.

P: okay

R: once the guy gets there

P: do you see where my guy's building?

R: oh yeah, got it. Mine's just below you, SE.

P: actually, that might not be a, um, I'll get that in a second.

A: stop recording//start recording, and I am resuming the game.

P: okay, print screen?

A: yeah

P: remember when we, uh, these, these, um, bunkers we're building?

R: right

P: they, uh, the siege tanks can hit those from far out range

R: okay

P: so we're gonna need to bring in, I'm gonna try to, yeah there we got some building right there.

R: so what's your, what do we need to do about that?

P: just be aware of that, if something [] shooting, it's probably a siege tank.

R: okay

P: and then I-

R: do we want to-

P: what I usually do is put tanks in front of my bunkers so that I can hit further out but I don't, I have a tank building right now, but it's gonna be a

R: okay, I've got two of them-

P: few minutes-

R: yeah, I've got two of them building.

P: I'm also gonna check out the rest of the map. Oh, that looks nice.

R: you want us to go ahead and get into these bunkers as soon as they're ready?

P: I do, yeah-

R: yeah

P: I man mine up immediately. In fact, I just heard-

R: oh we got guys coming right here.
P: I just heard, yeah, I just heard a tank coming from the south.
R: yeah, I got a big attack going on my guys...One of my bunkers is going.
P: yeah, if you get in close, you might be able to take these.
R: got three tanks down here. Took out one of them.
P: yeah.
R: I am just about gone. Uh, one of my bunkers is gone, one's- you trying to repair mine?
P: I'm trying, I don't know if I can or not. Yeah, I think I can.
R: shoot. Got a tank headed that way. One of mine, on the way.
P: alright, good.
R: got another tank coming.
P: alright, yeah, I, uh, my bunkers are both empty
R: okay
P: I got to build another barracks and get some more people headed down there. Oh, where are you people going, where are you people going, get back here...Can you move those guys over a little bit more?
R: move what?
P: those, that group over to the left a little. I'm getting attacked, my bunkers. That-
R: []
P: that tank and those 5 marines underneath him.
R: yeah, coming in after him now.
P: alright, thanks. Alright.
R: what do they have an SCV out here for?
P: one of those is mine. That's, but they were coming in here to build something. That guy right there, yeah he's
R: is that yours?
P: no, no, no, no, I'm repairing my bunker, your, your, but don't get your, don't take your tank too far over there, 'cause-
R: yeah, I was trying to get him to pull back.
P: you may get hit...Alright...Alright.
R: I just got that SCV. Okay, I just have the two tanks patrolling down there right now. out in front of those bunkers?
P: okay. Yeah, do you have, uh, siege mode, um, set up for your tanks? Do you know what that is?
R: no, I don't know what that is.
P: okay, go to your, uh, go to your machine shop, your add-on to your factory, and, uh-
R: okay
P: click on the little thing on the, the, on the far right where it says uh siege mode-
R: siege tank [or tech?], got it.
P: yeah, yeah
R: got it
P: and then, it's a technology you got to research. And then when you're done with that, what you want to do is, take your two tanks, and pretty much set them, set them right in front of our bunkers, between our bunkers and them and put them-
R: okay
P: in tank, put them in siege mode. But, you won't be able to do that immediately.
R: who's getting attacked right now?
P: yeah, your tanks. Pull them back, yeah they're getting-
R: oh, shoot. They did that on their own, I'm sorry.
P: yeah

R: yeah, they did that cause they were in the patrol, I guess, and they-

P: yeah, you don't want, you don't necessarily want patrol with your tanks. You want to

R: okay, sorry about that. Yeah, 'cause-

P: it's alright.

R: 'cause when they, 'cause when they make a detection they go after something?

P: yeah, yeah

R: okay

P: I usually just, I don't use patrol a lot, I know some people like to use it.

R: got another two tanks coming in. Shoot. What do they keep wanting to build out there, I wonder?

P: oh, probably a bunker or something, just like what we have.

R: yeah. Okay, I think my, uh, that, um, upgrade on the tanks is done.

P: okay, um, what I'd do is move 'em just, oh actually, put them inside your two bunkers maybe. See where I've got mine? You know, something like that, and then click that, click that mode, and that sets them to uh-

R: siege mode?

P: yeah, it gives them longer range-

R: okay

P: and it does more damage, but they don't shoot as often, so it's a trade-off.

R: okay...So, got three of them in that mode at the bunkers, is that okay?

P: yeah

R: okay

P: so now-

R: [says something at same time, can't understand]

P: see, in order to break through, in order to hit our bunkers, they've got to hit us with siege tanks from further out, but now, we should be alright.

R: now, will those guys fire automatically or do I-

P: yeah, yeah, somebody comes in range, they'll fire automatically.

R: okay, cool.

P: and the reason, you want them on the other side of your bunkers is because their tanks have the same range yours do, and it's longer than your bunker, and so they can basically go right up to the edge of their range and shoot your bunker until it's destroyed.

R: okay

P: but they can also, you know, bring up infantry and attack your tanks so it's, that's, you want to keep them close to the uh, close to the bunker.

R: okay.

P: I'm driving around

R: anything particular to be building up right now?

P: um, I guess, whatever we want to use to attack. I'd say a group of marines and tanks.

R: okay

P: I'm gonna try to put a, uh, we ought to put a, get another command center going right next to that big mineral field right there.

R: oh okay

P: 'cause if-

R: I'll go build that...What's that, diddle a dit?

P: oh, that's me doing, uh, sensor sweeps.

R: okay.

A: stop recording//start recording, and I'm resuming the game.

P: alright, we got ten minutes left. I guess we might as well get ready for an attack.

R: okay

P: I'm just gonna build up a large force of marines. I think right now, with these tanks and the bunkers, we should be able to fight off any attack that he mounts on us, unless he tries to fly up north, but I got those two towers right there...Those marines you got up in the top center, are those just your staging areas?

R: uh, I can bring them down now. That was when, back when we were exploring those regions.

P: oh, okay...Yeah, see every time he moves something in range, our tanks are taking it out.

R: that's good.

P: I'd love to drop a nuke on him, but I don't think we have time.

R: [laughs] go for it.

P: I'm trying, I'm, I'm...Okay, so he's got a bunch of tanks scattered, scattered out throughout there.

R: yeah, I can see

P: here comes, here comes one.

R: he's got a tank at the bottom left.

P: yeah. Oh, he's, somebody's attacking you. You got a tank attacking you. There you go.

R: actually, one of my guys moved in. [laughs]

P: yeah

R: oh well. Okay, he was the sacrifice.

P: alright...Oh yeah, here it comes. Oh, I got to get some gas first...Alright.

R: I got a couple wraiths drawing him out some.

P: alright, I got a ghost, uh, coming in just a minute, and I'm building a nuke silo

R: too cool.

P: oh, he doesn't have any towers around there. oh, this is going to be beautiful.

R: so that's the only thing that can detect your-

P: well anything, anything that's a detector, if he-

R: yeah

P: if he goes cloaked, then he can't be seen. And the only detectors for terrans are towers and science vessels.

R: yeah.

P: oh, yeah.

R: you want me to go in and soften him up?

P: uh, if you want to. I mean, I've got two groups of 12 marines, er not, almost 12.

R: yeah

P: two groups of, two groups of marines. Okay, um. Oh yeah, okay. Uh oh. Okay, I'm going to, uh.

R: I see you've launched the attack.

P: well, I'm just moving, I'm just moving over some, I'm backing off now.

R: okay. That is incredible.

P: oh shoot, they just cloaked. Oh, yeah, alright. Alright, I just cloaked, I'm going in. Oh crap, I got seen somehow. Alright.

R: what do you want to do?

P: oh, I don't know, we're just killing time right now, I guess. We can send an attack in if you want to, we've only got two minutes, so we might as well.

R: okay...Another one of those, water up there.

P: alright, I'm gonna try to go, I got another ghost there ready to try and launch another nuke.

R: okay

P: but I think I'm going to go ahead and send in an attack. Are you ready to go?

R: yep

P: alright. focus on the... Alright, watch this, watch the enemy command post.

R: okay...Why, what happened?

P: no, it hasn't happened yet.

R: oh, okay

P: It's getting ready to happen, right now.

R: just went up.

P: I'm sending in another group to attack.

R: yeah, I got some more coming too.

P: can, can you move on in a little closer?

R: yep.

P: oh, I don't think I'm gonna get to launch my other nuke.

A: okay, do one last alt-print screen.

P: oh shoot.

R: nuclear launch detected. Did you stay stop?

A: yeah.

Group 5 Trial 3

A: starting recording.
R: let's rock and roll
P: okay, so we see each other still.
R: yeah, I'm upper left, I see you in the upper right...I'll head over in your direction, see what's over there. Yeah, there's a plateau right along side of me, and []...So we've linked up in the center there.
P: yep
R: it's a big, uh
P: I've just set up my comsat, and I've found blue, so I'm assuming-
R: yeah, I see that
P: that they're on the other side. As soon as I build up enough things I'm gonna bring, a, uh, build another control station right here.
R: you can see, there's another vespene geyser that you went past.
P: yeah, yeah, I'm gonna bring somebody out here and build a station in a second.
R: oh, okay...It looks like there's water. Yeah, you're along side it.
P: yeah, I'm going down the edge of that water.
R: it probably cuts me off, yeah, it looks like it cuts me off to the south.
P: okay. I think I'm having a headset problem.
R: do you want to pause?
A: do you want to pause the game?
P: well, maybe. It's hard, I'm [not?] hearing stuff out of the right hand headset
R: oh okay
P: it's okay
A: okay
R: I'm entering your corner here
P: I'm hearing enough. I found some more minerals and stuff down to the south. Yeah, that water looks like it goes all the way across. I've got that group tracking across the south there.
R: yeah, there's a, they'll see a bridge. There's a bridge.
P: yeah, yeah, I just see that.
R: okay
P: and there's a geyser down there
R: and okay, see you went around it, yeah, and there's a
P: yeah, I'm going, I'm gonna go back across...I'm gonna cut through you guys real quick. Okay, see who we can find. There they are. Yep. White's down in the lower left corner.
R: got it. How do we want to proceed? Do we want to build a base south of the, uh, of the water?
P: yeah, if you want to. I'm building one right there in the middle of the top, between that mineral and the vespene.
R: okay
P: there's also some, see on the, uh, right hand side, down in the middle, I've got a group of people over there. Yeah, let's go across that bridge and start working your way down south.
R: okay. I need to build a couple supply depots-
P: yeah, I'd build another base right there.
R: keep going at the moment, okay. Be heading there shortly...One thing I haven't found over there yet, was a mineral deposit.
P: you could build a, that patch in the middle is pretty huge. You could build a command center on the other side of that, and we could just share it.
R: okay, where do you mean? I'm sorry.

P: um, see the patch in the top middle? The one that I'm building off to the right hand side of?

R: yeah

P: you can build a command post to the left hand side, and we could attack it from both sides.

R: okay...There's a, uh, down south of that, uh, geyser area, there's a plateau.

P: okay, yeah I see it. Be careful of those guys you're moving south that's

R: yeah, they're actually heading up on the plateau now.

P: oh, okay

R: I was just kind of checking out that area, but yeah, you can see where I'm at. But, um, but yeah, I don't see any other um,

P: there's a place-

R: mineral deposits down there actually.

P: no I wouldn't, I wouldn't. Yeah, build, build one off to the side of that other guy. I'm gonna build one down south so I can get three bases working.

R: okay, I see what you mean.

P: there's a plateau in the dead center, also.

R: yeah, I see that.

P: okay, there's a big lake in the middle there. I've got that group on a plateau.

R: okay, I see the lake...I've got a little bit of a narrow, uh, corridor there. Where my forces are? Between my forces and your forces?

P: yeah, the guys you just had going south?

R: yeah, there's, there's-

P: okay.

R: a couple plateaus there, might be a good spot to build some bunkers. Or, maybe just a little bit south of that.

P: yeah. There's a, there's two ramps on that center plateau.

R: yeah

P: and I'm winding my way around the bottom of those now. If I can, I'll link up with your guys, I just, I'm scared of making contact right now.

R: yeah, I see where you're at.

P: but, uh, I think I'm getting ready to, yeah, I'm [] to link up with your guys from around the other side.

R: I'm kind of down south just a little.

P: alright

R: um, should, there we are.

P: alright, we just joined up. Somewhere in there might be a good place. Let me do another scan: I want to see if he's separated by water or anything. No, that's a straight land shot from, between h-us and them. So.

R: oh yeah, I see them. Can't tell how narrow that area may be there.

P: no, I think it's pretty wide. It's gonna be-

R: actually, there's some um minerals.

P: yeah, down there-

R: see those?

P: on the bottom right, yeah-

R: yeah, off to the right of you. Okay. Do we want to try and set up something down there.

P: yeah, that wouldn't be a bad idea, I'll send a group down that way.

R: I've got an SCV down there, he's starting to build a bunker near where we are right now.

P: okay, I see it.

R: but if we want to move over closer to that deposit, we could start to build some stuff over there.

P: yeah, I got a group heading down that way right now. but they don't have an SCV with them...Oh, that's a huge deposit.

R: okay

A: //start recording and I am resuming the game.

R: alt-print screen

P: print screen

R: got it

P: alright, I've got a headquarters building in the right center and then I got a couple of barracks pumping out marines, I'm just gonna start funneling them down there to the south.

R: okay. I'm headed

P: I haven't built a factory yet, I need to get on that.

R: okay, I've got an SCV headed to that big mineral deposit where you are. Um, he's gonna build a command center there.

P: okay, down south?

R: yes

P: okay

R: over where you are at that big-

P: right

R: that'll get us a little closer to the action, I guess...Oh, oh, ran into opposition here, sorry about that.

P: alright, I'm moving over there to give you a hand.

R: okay, yeah, they took me out. Drew them in close to my bunker though. I've got guys in the bunker there.

P: oh, there's a bunch. They got a tank coming up.

R: too much? Okay

P: no, I mean, they have a tank coming up. I'm just-

R: yeah, yeah. Shoot, we're in trouble now.

P: yeah

R: They've got three tanks there.

P: well, yeah, the firebats can get in close to them. I got another group coming in.

R: well, I got one of them out.

P: alright, yeah, I think we're getting ready to get in these tanks here. There we go.

R: I've got two of them going

P: yeah.

R: very good. okay, if you want to uh-

P: alright, I'm backing off now.

R: yeah, if you want to, anything at that, bunker, yeah, are you talking right now?

P: no

R: okay, good. I was hearing somebody else.

P: there's somebody, people from this group talking behind me.

R: yeah, I was just worried I'd lost you somehow.

P: alright, uh, well, you're, yeah. I sent an SCV down to help clear that bunker

R: okay

P: I've got one to spare, I'll try to send him down there.

R: I've got it covered, if you want. I had one on the other side of that bridge anyway.

P: okay.

R: but if you want-

P: I need to build a bunker for me anyway, down there. And then we also ought to build a couple of bunkers um, that command center you just finished in the south center?

R: yeah

P: I'd put a couple bunkers on the side of that one.

R: okay. So build some bunkers to the left of it?

P: yeah, I'm gonna build a tower down there so we can see things...Oh, they got a starport now...Alright. Alright, I got some tanks finally coming now...Oh, there's a. Oh, you've got some activity down, he's building a bunker right there, you see that bunker?

R: where at? Oh, yeah, that's the bad guy? Or that's your guy.

P: yeah, that's him. Yeah.

R: okay, which side is that?

P: the, see the white, there's a white bunker right there.

R: yes

P: and I just heard the, I just heard the siege tanks stopping. There's a siege tank attacking you.

R: yeah, yeah, he's in the trees there. Shoot.

P: I see him now.

R: that's right where they put their command post...Shoot.

P: you got anybody you can send over there?

R: no, I sure don't. Not that can get there soon enough.

P: is that your barracks there?

R: yeah. It just got built.

P: okay, sh**. I'm sorry, sorry. Alright.

R: just survived that one.

P: alright, yeah, um.

R: so I've got to get some more forces down there.

P: yeah, I'm building a barracks over on the left hand center side

R: okay

P: I'd just [] barracks down there.

R: okay, I've got about-

P: the SCV-

R: I've got about eight-

P: the SCV just ran by you.

R: I've got about eight marines down there now.

P: alright. There's a white SCV that just went up the left hand side of the map, right by our barracks. See him now? He's building a command center up near your refinery. See what I'm talking about?

R: yeah, I see him now. Shoot.

P: I got some people going over there. Oh, there's, I'm getting under attack, can you move those marines over to the right?

R: what marine? Uh, I see where you're being attacked. Uh, there's a siege tank there, I'm not gonna have enough to take him out.

P: shoot...Alright, I got two tanks there now.

R: okay

P: but a force went up to the north

R: yeah, I see one tank there

P: oh, they're trying to defend that command center they got up there. Yeah, they sent a pretty large force up there to defend that command center.

R: they're now attacking up near that refinery that we built, er that I built up in the middle of nowhere, but.

A: start recording

R: now the glare is getting kind of heavy.

A: okay, I'll shut those blinds. Okay, resume game.

R: yeah, they're just hitting that refinery up there, but they're building a command post or something.

P: yeah, I noticed, I got a, uh

R: there's only a couple marines up there on their side, if we could get to them.

P: yeah, right now, I'm

R: it's almost not worth us worrying about...I've got some marines

P: whoa

R: I'm building some marines up there, so I'll go down and get those guys in a minute.

P: alright, I just lost a tank. Actually, I just lost two tanks.

R: to what?

P: uh, they're sending up tanks from the south.

R: oh, okay. Shoot. I can come in behind them here in a minute. Coming after them...Yeah, it looks like you just got 'em.

P: I got one of them, but there's a, uh, the marines from the top are coming down south now.

R: okay, I've got-

P: oh, maybe not.

R: air force coming over there to help you out.

P: alright, we need to build up a, uh, defense, I guess. Um, okay, you got the group south of there. We need to build up something between the narrows and the white guys.

R: okay

P: um, it's hard to explain where I'm talking about, I guess

R: I see, yeah, I hear what you're saying. Um-

P: 'cause they got that bunker, I see that bunker they got right there.

R: yeah, so should I build, start building some bunkers out there?

P: uh, [] to get...I thought you were him, that's just you.

R: that's me

P: alright, I got a couple of tanks coming up right there

R: okay, I'm putting in a bunker there. What happened to my guys, did I send them to that way.

P: I'm attacking there. Oh, that didn't go well.

R: got marines going.

P: alright, my tank's going to attack those guys right there.

R: okay.

P: okay, I think we got it under control right now. That bunker's getting ready to be toast. Alright, they're attacking right there.

R: yeah, I got it.

P: alright

R: nothing.

P: alright, oh yeah, nice wraiths.

R: I got some wraiths attacking their command post, that isn't going to last long, it looks like.

P: alright, you got attacked by that tower right there.

R: yeah, I didn't do a very good job on that.

P: I'm pulling my tank up there so I can start shooting. Alright. Alright, now, now we got our own attack going.

R: I'll give you some more guys. Where do I support the attack? Okay, here we go. It's looking good.

P: alright...Alright, I think we got them.

R: yeah, it looks like it. I think we're doing alright.

P: I'm going to keep moving over a little bit more.

R: okay. Got some more marines I can bring down there.

P: okay there's a barracks over here, we definitely need to take them out...Oh, shoot, [] supply depots. Oh, there's a bunker down south, I just saw it.

R: yeah, I'm on it. I'm not getting any return fire from it.

P: alright, there's an enemy marine right there. Oh yeah...Um, we ought to send a group up to the N, to take out that uh. Oh, there's another, uh, another command post down in the far corner.

R: yeah, I'm on it.

P: and we ought to take out

R: except I'm getting fired on.

P: are you uh, I guess I'm attacking him. The uh,

R: I'll go get that command post.

P: I just, I just destroyed it, I think. Yeah, I did.

R: oh, okay. Alright. They still have an engineering facility and another uh, barracks-

P: somebody's firing-

R: another barracks over here.

P: somebody's firing on us from somewhere, I thought, but maybe not. Oh my God, got three more tanks not even in this battle yet.

R: where they at?

P: they're coming over right now.

R: oh, okay. Oh, I see...Oh, your tanks, okay. Uh, this is just about over.

P: yeah, unless he's got something else somewhere that we don't know about...Alright, where's um.

R: did you get that one command post? I guess you did.

P: yeah, everything looks like it's destroyed.

R: any bunkers?

P: I mean I just did some scans to look and see if there's anything else anywhere.

R: yeah, I got a couple wraiths flying up north-

P: there's nothing, that's-

R: looking around

P: I'd look over in the left, uh, left center, probably the only place anything might be. I don't know, maybe-

R: left center?

P: yeah, near that geyser?

R: yeah.

P: it's not like there's anything. I mean, the game's about 5 minutes from being over anyway, or 5 seconds.

R: 1312 yeah.

P: in single player when you blow everything up the game ends, but I don't know if that happens in multi-player.

R: they actually had a number of maybe superfluous-

P: whoops, sorry.

R: facilities. What did you find?

P: nah, I was shooting at her.

R: oh

A: no, it's not me.

P: huh?

A: okay, get one last print screen.

P: that blue dropship's you, isn't it?

A: um, stop

Group 5 Trial 4

A: now recording...yeah, you can go ahead.
P: alright, I want to win this one a little bit faster this time.
R: [laughs] just tell me what to do.
P: we probably had a couple seconds left last time.
R: [laughs]
P: I think I wasted too much time the other time trying to build nukes.
R: okay, so, I'm over in the right hand side. Um, I'm along the right hand side about two-thirds of the way down.
P: okay, I'm about one-third down on the left hand side, so I think we're diagonally opposite from each other probably
R: okay, I'm sending a little scout party south since there's just that one corner there to open up, see what's down there.
P: oh, nice. I got another mineral patch just N of me
R: okay. It looks like things might be clear to my south...There's a big patch of minerals south corner, southeast corner
P: alright, I bet it's symmetrical.
R: things seem to be pretty clear south and below me.
P: alright, I've got a geyser about two-thirds down and another minerals up there.
R: where are you? Along the left side?
P: yeah, I'm along the left side. The top looks relatively clear. I did a scan of the bottom and I didn't see anything. I'm gonna scan now, dead center, that's empty now also.
R: you're, you're top left?
P: no, I'm, I'm a-, I'm about a third of the way down, but the very top left is clear.
R: oh, okay, I see what you mean, the uh, yeah, how we're symmetrical then. I'm gonna head kind of-
P: I think I'm offset a little bit to the south of you.
R: oh okay, I'm heading kind of diagonal. So I've checked the, uh, SE corner; it's clear.
P: alright, I'm scouting out towards the middle; I don't see anything in the northern part of the middle section...I haven't made contact yet.
R: me either. I've cleared kind of a whole corner of, almost, oh, one-third of the whole terrain.
P: okay
R: in fact, I'm gonna, along the bottom, I'm about 4/5's of the way over, I'm gonna go up north from there.
P: alright
R: see if I run into anything.
P: I found a bunch of geysers over on the right hand, left hand side.
R: okay. There's some water and a bridge in the lower left corner, you know, up maybe a couple screens. My guys are crossing the bridge right now, possibly headed up towards your, matter of fact, yeah. There's one of your guys just went past me.
P: okay, yeah I see-
R: he just jogged up there.
P: yeah, I see you guys right now.
R: okay, so there's a waterway there.
P: okay
R: pretty wide actually, 'cause I've, I think, 'cause I've got some guys, uh, on a little land bridge that are way to the right of where our forces are right now.

P: alright, well, there's a plateau to the west of that bridge. So, you came down that bridge?

R: yeah, I came across that bridge. Everything's clear to the SE of that, I'm in the SE, uh, wall.

P: alright

R: or, straight across, against the wall. So I've got some guys coming around kind of the other side that are at about a, uh, oh a 45 degree from where we are right now...So we still haven't found the, uh, white guys yet, huh?

P: no.

R: I'm gonna try to link up with my, uh, guys that are over at the-

P: alright, I'm uh-

R: so they're kind of, they're kind of heading up towards your way.

P: okay, I'm moving across the north, the very top part of the map, been looking around up there and I don't see-

R: oh, okay

P: anything so far. Oh, contact. I got contact north center.

R: north center?

P: yeah. Here, I'm gonna fall back. Pretty large group of the enemy.

R: there's some ruins in the, sort of the,

P: yeah, actually, I've got a really-

R: left, left center quadrant

P: big group coming. I hope they break off before I lead them back to my base.

R: okay

P: okay, they were broken off. Alright, the enemy's up in the north, north center.

R: okay.

P: okay, yeah. I just stumbled across them pretty much

R: okay so I've got a force that's kind of building up, might be just S of them then. Where? Are they up along the top edge?

P: yes, right along the top edge, just to the right-

R: about in the center?

P: just to the right of center.

R: oh, okay then. I've got a force building sounds like just immediately south of there.

P: yeah, I see your guys coming up. I've got another force I'm building right there-

R: okay, I've got some guys-

P: I'm gonna set up a defensive wall up here

R: okay. And then there's a good sized bunch there's up on top of a wall that's kind of in the upper left, uh, mid-left. But I'm gonna go ahead and link them up with other forces. That's a pretty good group we got there.

P: yeah, I just scanned, I saw the tail edge of your group. If you kept going north, you'd hit them.

R: okay.

A: stop recording//starting recording...okay, I am resuming the game.

P: okay, um, somehow, [I'll do a scan and see where he is?]. I'm gonna build up, I guess, a few more tanks and whatnot and go at it.

R: okay

P: I mean, it's gonna be a while but I'm just.

R: so I got a lot of marines south of that position.

P: oh do ya?

R: yeah

P: I only have a small-

R: 2, 4, 6, 8, 10, 12, 14, 16, 25 or 30 of them.

P: alright, sweet.

R: so anyway. I'll just keep generating guys and uh build up some more stuff here.

P: okay...I'm going to build a bunker or two and a tower in between him and, him and I.

R: okay

P: 'cause he's got kind of a direct path to get to me...I've got three tanks so far.

R: got a large force attacking in the north there.

P: okay, you're under attack?

R: yeah, actually, yeah, okay. 'cause the last couple guys I sent up there got a little too close.

P: okay

R: oh they've got a, yeah, they've got a tank attacking me now, so.

P: alright, I'm moving in.

R: my guys just went into action. I'm pulling them back a little bit though.

P: alright. Well, I'm attacking them.

R: okay. Yeah, I am, I am just south of their base, for sure.

P: alright.

R: and I'll see where they're, where they're-

P: yeah, alright, I've got-

R: []

P: I just got wiped out.

R: okay. I'm a lot smaller than I was, but doing okay.

P: alright...Alright. yeah, I've got a little defensive line there. Oh, they're coming my way.

R: yeah, they're attacking me again.

P: alright. I can't uh, I don't have anybody to attack with. I've got a couple tanks, but if I send them in, they'll get destroyed.

R: they're definitely coming after me on the north there.

P: alright...How you doing? I can't tell what's going on over there.

R: um, keep getting hit by kind of individual marines. So, I'm kind of hanging in there, but not doing great.

P: alright, well I'm gonna try to leapfrog over in a minute here. I've got a force building up.

R: okay, I have basically pulled all the way, pretty much all the way back to my camp, um.

P: okay, I found a camp, I see a camp now.

R: yeah

P: You got a siege tank, you got a siege tank to the north of your camp.

R: okay, they're coming, yeah, they're coming in. Unfortunately, I don't have a lot of stuff to work with here.

P: alright, well, I think it's time for me to move in a little closer then.

R: yep, their tank is on me.

P: well, I'm coming, I'm coming at him here.

R: I could be in big trouble...Yeah, I got a problem.

P: alright, I'm putting on a major attack right now, so hopefully, it'll pull them back.

R: they just took out one of my supply depots.

P: alright, well, they're gonna have to fall back 'cause I'm gonna destroy the base here in a minute.

R: oh, cool...Got a goliath on me. Oh no, that's one of their SCV's, by golly.

P: alright, well, I'm pretty much laying waste to their base right here.

R: well, that's good. So maybe I've pulled enough of 'em off, kind of screwed them up.

P: yeah, yeah, it worked pretty well. While they were attacking you, I'm homing in on them.

R: okay. How about that.

A: stop recording//recording...resuming the game.

P: yeah, I'm uh, conducting a little [] over here.

R: oh, that's great. Just keep it up. I may, uh, send in a assault force from the south here shortly then...I don't know why they keep bringing SCV's down this way. They're trying to build-

P: oh, yeah

R: they're trying to build down here in the south or something.

P: yeah, this base is pretty much destroyed, I don't know if he's got another one somewhere else or not.

R: yeah, there's an SCV trying to build a new one

P: oh, yeah, that would be

R: okay, I'll take care of that. Got it. Took care of that. Anything left up there?

P: uh, yeah, I'm destroying the last couple things right now.

R: I don't know if they've got anything else coming south or not. Keep watching for it.

P: alright, um, pretty much killed everything now. I don't know if he's got anything left out there or not

R: alright, guess I'll start scouting around.

P: I see an SCV, I'm gonna, that's probably one of those-

R: yeah I see a lot of, yeah, there's quite a few buildings up there, unless that's my old information.

P: oh, where?

R: just to the upper left of their mineral deposit?

P: no they're all destroyed

R: that's all gone, okay

P: I think so

R: that's just old, that's just old data probably from-

P: yeah, yeah

R: when I was up there before.

P: it just hasn't refreshed.

R: okay

P: as far as I can tell, I've destroyed everything.

R: maybe I'll link up with your guys here in a minute.

P: yeah, I got a force coming south.

R: oh, there they are, got it.

P: yeah, I don't know if he's got anything else or not.

R: okay, well, do we want to check out the corners and stuff. See if there's anything else? [some of those?] ruins. Not ruins, towers or something.

P: I'm just gonna just go down a little bit now and see what, so we can see...Is there anything south of your base? I'm walking down there, I don't know if there's

R: nah, you can go ahead, it's all clear down there.

P: oh

R: that's where I took out his SCV that was trying to build a new base.

P: oh, okay. I see you got another force right there.

R: yeah. I can see where you are too. I ran into that wall and couldn't go anywhere...Okay, what we're doing now is illuminating terrain, uh?

P: yeah, I'm just driving around a little bit.

R: yeah, I got both tanks flying around.
P: building some airplanes, or I'm getting ready to build some. Oh, so you got a tank right there by the. I thought there was a bridge on this, there it is, right there.
R: not much for us to communicate about any more is there?
P: no, I'm just, I just think we're having to put in time right now.
R: see your wraith just went by.
P: yeah, you got a force there in the middle. Oh!
R: what's the matter?
P: nothing, I just found a new target to attack.
R: oh, what was that?
P: the blue force, I finally found the blue force.
R: oh, I see where, over there on the left edge.
P: yeah, they're on the bottom left
R: right, okay
A: okay, get one last print screen.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX H. SCREEN VS MAP COMPARISON DATA

The following tables show the data that was generated by comparing the features the players uncovered to the features they drew on their maps. Data was taken at 20 minutes left in the game, 10 minutes left in the game, and at game end. The table showing individual data shows the number of items each player uncovered and drew. The table showing team data shows the number of unique items that a team uncovered together (i.e., if both team members uncovered or drew the same building, it was only counted once as a data element). Missing data is identified by empty parentheses.

		Individuals 20 minutes		
		Uncovered	Drawn	
		Distributed	Not Distributed	Not Distributed
Shared Vision		21, 21	8, 8	8, 11
		37, 37	28, 28	29, 27
		21, 21	27, 27	9, 13
		26, 26	31, 31	8, 9
		32, 32	23, 23	13, 16
		7, 6	6, 13	6, 8
		28, 26	29, 29	18, 17
Not Shared Vision		12, 6	12, 12	8, 8
		14, 23	19, 20	8, 13
		10, 15	(), ()	7, 10

Table 19. Individual Data with 20 Minutes Left

		Individuals 10 minutes		
		Uncovered	Drawn	
			Not	Not
		Distributed	Distributed	Distributed
Shared Vision		26, 26	12, 12	10, 18
		37, 37	28, 28	32, 35
		21, 21	28, 28	9, 13
		26, 26	34, 34	8, 10
		36, 36	30, 30	13, 17
		7, 17	6, 18	7, 12
		32, 32	31, 32	28, 28
		15, 9	12, 19	12, 9
Not Shared Vision		26, 27	25, 28	11, 15
		12, 20	12, 19	7, 11

Table 20. Individual Data with 10 Minutes Left

		Individuals End		
		Uncovered	Drawn	
			Not	Not
		Distributed	Distributed	Distributed
Shared Vision		26, 26	13, 13	10, 18
		37, 37	28, 28	33, 35
		25, 25	28, 28	12, 13
		26, 26	34, 34	8, 14
		36, 36	30, 30	13, 18
		13, 20	12, 18	7, 12
		32, 32	33, 34	31, 32
		22, 12	12, 25	17, 12
Not Shared Vision		27, 28	25, 28	11, 16
		16, 28	(), 21	8, 19

Table 21. Individual Data at Game End

Team 20 minutes				
	Uncovered	Drawn		
	Distributed	Not Distributed	Distributed	Not Distributed
Shared Vision	21	8	19	()
	37	28	32	20
	21	27	15	14
	26	31	13	15
	32	23	19	14
	13	19	12	12
	29	34	24	25
	17	22	13	16
Not Shared Vision	28	24	14	16
	19	()	12	12

Table 22. Team Data with 20 Minutes Left

Team 10 minutes				
	Uncovered	Drawn		
	Distributed	Not Distributed	Distributed	Not Distributed
Shared Vision	26	12	28	()
	37	28	35	25
	21	28	15	20
	26	34	14	19
	36	30	19	15
	21	20	16	14
	32	34	30	29
	23	29	18	24
Not Shared Vision	35	28	18	20
	22	24	13	15

Table 23. Team Data with 10 Minutes Left

		End			
		Uncovered		Drawn	
		Distributed	Not Distributed	Distributed	Not Distributed
Shared Vision		26	13	28	()
		37	28	35	28
		25	28	16	20
		26	34	15	19
		36	30	21	17
		23	23	16	17
		32	34	32	30
Not Shared Vision		28	30	23	()
		35	28	18	20
		28	()	20	16

Table 24. Team Data at Game End

LIST OF REFERENCES

Baker, M., Hansen, T., Joiner, R., and Traum, D., *The Role of Grounding in Collaborative Learning Tasks*, in Dillenbourg, P. (Ed.), *Collaborative Learning: Cognitive and Computational Approaches*, pp. 31-63, Pergamon, 1999.

Cannon-Bowers, J.A., Salas, E., and Converse, S., *Shared Mental Models in Expert Team Decision Making*, in Castellan, N.J. Jr. (Ed.), *Individual and Group Decision Making: Current Issues*, pp. 221-246, Lawrence Erlbaum, 1993.

Charness, N., *Expert Performance and Situation Awareness*, in Garland, D.J., and Endsley, M.R. (Eds.), *Experimental Analysis and Measurement of Situation Awareness*, pp. 35-42, Embry-Riddle Aeronautical University Press, 1995.

Cooke, N.J., Salas, E., Cannon-Bowers, J.A., and Stout, R.J., "Measuring Team Knowledge," *Human Factors*, 42(1), pp. 151-173, 2000.

Endsley, M.R., "Toward a Theory of Situation Awareness in Dynamic Systems," *Human Factors*, 37(1), pp. 32-64, 1995.

Endsley, M.R., *Situation Awareness Research and Design Needs in Tactical Aircraft*, in Schopper, A.W. (Ed.), *Situational Awareness in the Tactical Air Environment: augmented Proceedings of the Naval Air Warfare Center's First Annual Symposium*, pp. 1-29, CSERIAC Program Office, 1997.

Endsley, M.R., *Theoretical Underpinnings of Situation Awareness: A Critical Review*, in Endsley, M.R., and Garland, D.J. (Eds.), *Situation Awareness Analysis and Measurement*, pp. 3-32, Lawrence Erlbaum, 2000.

Fisher, K., and Fisher, M.D., *The Distributed Mind: Achieving High Performance Through the Collective Intelligence of Knowledge Work Teams*, Amacom, 1998.

Keppel, G., *Design and Analysis: A Researcher's Handbook*, 3d ed., Prentice Hall, 1991.

Palmer, B., Gentner, F.C., Cameron, J.A., and Soest, J.I., *Technological Impact on Future Air Force Personnel and Training: Distributed Collaborative Decision-Making, Volume I, Final Report (CSERIAC-RA-97-007A)*, CSERIAC Program Office, 1997.

Pew, R.W., *The State of Situation Awareness Measurement: Circa 1995*, in Garland, D.J., and Endsley, M.R. (Eds.), *Experimental Analysis and Measurement of Situation Awareness*, pp. 7-15, Embry-Riddle Aeronautical University Press, 1995.

Prince, C., Salas, E., Bowers, C., and Jentsch, F., *Team Situation Awareness Research: Many Paths to a Destination*, in Garland, D.J., and Endsley, M.R. (Eds.), *Experimental Analysis and Measurement of Situation Awareness*, pp. 129-134, Embry-Riddle Aeronautical University Press, 1995.

Ruffner, J.W., Tullos, R.E., and Muldoon, R.C., *Situational Awareness in Night Airborne Mine Countermeasures (AMCM) Operations*, in Schopper, A.W. (Ed.), *Situational Awareness in the Tactical Air Environment: Augmented Proceedings of the Naval Air Warfare Center's First Annual Symposium*, pp. 413-435, CSERIAC Program Office, 1997.

Salas, E., Dickinson, T.L., Converse, S.A., and Tannenbaum, S.I., *Toward an Understanding of Team Performance and Training*, in Swezey, R.W., and Salas, E. (Eds.), *Teams: Their Training and Performance*, pp. 3-29, Ablex, 1992.

Salas, E., Prince, C., Baker, D.P., and Shrestha, L., "Situation Awareness in Team Performance: Implications for Measurement and Training," *Human Factors*, 37(1), pp. 123-126, 1995.

Salas, E., Cannon-Bowers, J.A., Payne, S.C., Smith-Jentsch, K.A., *Teams and Teamwork in the Military*, in Cronin, C. (Ed.), *Military Psychology: An Introduction*, pp. 71-87, Simon and Schuster Custom Publishing, 1998.

Stout, R.J., Cannon-Bowers, J.A., and Salas, E., "The Role of Shared Mental Models in Developing Team Situation Awareness: Implications for Training," *Training Research Journal*, 2, pp. 85-116, 1996.

Stout, R.J., Cannon-Bowers, J.A., Salas, E., and Milanovich, D.M., "Planning, Shared Mental Models, and Coordinated Performance: An Empirical Link is Established," *Human Factors*, 41(1), pp. 61-71, 1999.

Wellens, A.R., *Group Situation Awareness and Distributed Decision Making: From Military to Civilian Applications*, in Castellan, N.J. Jr. (Ed.), *Individual and Group Decision Making: Current Issues*, pp. 267-291, Lawrence Erlbaum, 1993.

BIBLIOGRAPHY

Prima's Official Strategy Guide: StarCraft®, Prima Publishing, 1998.

StarCraft® User's Manual, Blizzard Entertainment, 1998.

THIS PAGE INTENTIONALLY LEFT BLANK

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, VA
2. Dudley Knox Library
Naval Postgraduate School
Monterey, CA
3. Rudy Darken, Code 32
MOVES Academic Group
Naval Postgraduate School
Monterey, CA
4. Dr. C.A.P. Smith
Colorado State University
College of Business
Fort Collins, CO
5. LCDR Amy L. Halin
Indiana, PA
6. Naval Information Warfare Activity
Ft George G. Meade MD